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Mental Health First Aid (MHFA): Implementing an Evidence-Based Practice Change Initiative in a School Setting

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TITLE: Mental Health First Aid (MHFA): Implementing an Evidence-Based Practice Change Initiative in a School Setting

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Abstract

Background: School-aged children with unidentified mental illnesses experience poor health outcomes and increased medical costs. Successful management of this public health threat requires a collaborative community approach with a focus on enhancing adults' mental health literacy (MHL) to improve outcomes.

Objectives: The objectives of this project were to implement an evidence-based mental health education (utilizing MHFA) and sustainment program within a school setting for staff and parents supervising children to optimize the adults' MHL over a three month period.

Methods: A pretest-posttest design was used. Participants were recruited from a school in the Western United States. Inclusion criteria consisted of: English speaking, male and female school staff and parents of any ethnicity (with supervisory roles), aged 18-65 years, and no previous MHFA training. The intervention included MHFA training by the Nurse Leader. All participants were asked to complete the Mental Health Literacy Scale (MHLS) to measure baseline and post-intervention MHL. Sustainment was achieved by developing a school-centered mental health toolkit (measured for usability) and integrating a school mental health champion.

Results: The sample size consisted of 15 staff and parents. There was a statistically significant MHL score change from pretest to posttest, $p = < 0.001$. The toolkit bolstered sustainability by increasing utilization of community resources/mental health aids.

Conclusions: Mobilizing lay people as MHFA responders serves as a powerful tool to curb mental health crises. Healthy People seeks to extinguish this burdensome threat with early identification and intervention; implementing communal mental health practices affords the opportunity to meet such initiatives.

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Introduction

Mental Health First Aid (MHFA) is an innovative and growing initiative that has been shown to effectively mitigate mental health issues in the United States (U.S.). The *Diagnostic and Statistical Manual of Mental Disorders* (DSM) defines mental illnesses as changes in behavior, emotion or thinking that can cause distress and difficulties operating in family, social or work settings; early identification and treatment of mental illnesses is instrumental to lessening the severity of such concerns (American Psychiatric Association, APA, 2021). One of the settings that has positively gained from MHFA are schools. One in six children attending school suffer from some form of mental illness; the likelihood of a teacher encountering a struggling child is high (Centers for Disease Control, CDC, 2021a). "MHFA empowers teachers and staff to be proactive about their student's mental health by teaching them to how to spot signs of mental illness, giving them the appropriate tools to effectively intervene" and increasing their mental health literacy (MHL) (National Council for Behavioral Health, 2020a). Moreover, training school faculty in addition to parents creates a dynamic dyad to enhance the response to the struggling child (Jorm et al., 2010). A systematic review of the literature was conducted to measure the impact of youth MHFA training on the MHL of adults supervising children and adolescents. Results indicated a strong, compelling strength of evidence and overall positive impact on MHL, as well as a recommendation for implementing this program into practice.

Youth MHFA was implemented at a school in the Western United States. During a meeting with the Principal of the school, it was discovered that the staff did not have any training on responding to children struggling with mental illnesses. Given the significant impact of the current Coronavirus disease 2019 (COVID-19) pandemic on mental health, the school Principal sought to prioritize this initiative in the school. Compounding the lack of faculty training, the

National Council for Behavioral Health (2020) noted that the local community was severely deficient in MHFA training, leading this population to be at a significant disadvantage for addressing the mental health crisis. As detailed by the CDC (2021a), "screening, identifying, and referring kids and adolescents to effective treatment can help prevent or decrease the negative effects of mental disorders." Therefore, employing youth MHFA training within this school extended the opportunity to address the knowledge gap and improve the overall well-being of its community. The purpose of this scholarly project was to deploy an intervention (youth MHFA) and sustainment strategies, in a community school that lacked mental health training, and assess the impact of such training on school staff and parents' MHL.

Background and Significance

Mental illnesses present a threat to public health in the U.S. The high disease burden (rooting from costliness, associated disabilities and deaths) gives credence to this notion (Kamal et al., 2017). The American Psychological Association (2017) ranks mental health disorders as the fourth costliest conditions in the U.S. In children/adolescents aged 6-17 years, one in six suffer from treatable mental illnesses such as depression and anxiety (American Academy of Family Physicians, AAFP, 2019). However, only 50% of kids in this population will receive mental health care (AAFP, 2019). Tragically, this lack of care corresponds to poor outcomes, as suicide is listed as the second leading cause of death in those 10-34 years old (CDC, 2021b). The COVID-19 pandemic has amplified this already sobering mental health crisis (CDC, 2020). In 2020, mental health related emergency department visits for children (5-11 years) and adolescents (12-17 years) rose by 24% and 31% respectively (CDC, 2020). Research has also shown that at least 18% of COVID-19 patients develop mental health disorders within 90 days of diagnosis; the pandemic driven mental health repercussions are likely to be longstanding (Taquet

et al., 2021). COVID-19 has exacerbated the mental health crisis so drastically that an executive order, aimed at increasing mental health support, from the White House stands (SAMHSA, 2020). This order is multidimensional; however two highlights are its focus on initiatives to create public health campaigns that foster a supportive mental health culture and school based mental health programs (SAMHSA, 2020). The urgency of this crisis calls for novel community solutions. Schools present a unique environment for capturing this vulnerable population; implementing youth MHFA within the school setting may serve as a means of reducing the harm associated with mental illnesses.

MHFA is a community approach to identifying and intervening in suspected mental illnesses. Community members are often unable to help struggling societal members because of their poor mental health knowledge and lack of confidence (to respond); these deficiencies diminish MHL (Henderson et al., 2013). This void often leads to either absence of treatment or delay in seeking care (Henderson et al., 2013). MHFA affords the opportunity to expand MHL. The ability for this course to be taught to all individuals, regardless of education and baseline training, makes it applicable across a multitude of settings (National Council for Behavioral Health, 2021). MHFA has been successfully implemented in schools, police and fire departments, faith based and government organizations, and veteran communities (National Council for Behavioral Health, 2021). The simple framework for delivering MHFA (based upon the ALGEE Action Plan) allows broad application of the curriculum across diverse settings and people (Morgan et al., 2018). ALGEE stands for: "(A) Approach the person, assess and assist with any crisis; (L) Listen and communicate non-judgmentally; (G) Give support and information (E) Encourage the person to get appropriate professional help; and (E) Encourage other supports" (Morgan et al., 2018). This framework enables lay people to be taught how to

recognize and intervene until professional help is obtained and permits MHFA training to be as streamlined as physical first aid training (Morgan et al., 2018). Bolstering vulnerable populations with trained MHFA responders empowers societies to respond and mitigate the mental health crises within their communities.

The evidence supporting the efficacy of MHFA on MHL is convincing. A systematic review evaluating the influence of MHFA training (for adults supervising children and adolescents) on MHL produced strong, compelling evidence. These studies showed a statistically significant improvement in the MHL of adults supervising children and adolescents when youth MHFA was implemented (Morawska et al., 2013; Jorm et al., 2010, Morgan et al., 2019, Morgan et al., 2020; Pierce et al., 2010; Gryglewicz et al., 2018; Haggerty et al., 2019; Morgan et al., 2018). This evidence suggests that implementing youth MHFA within the school setting poses benefits to all involved parties (parents/school faculty/community/students).

Implementing MHFA training in environments with ready access to vulnerable populations (such as schools) where teachers and parents can work together as teams to screen, early identify and intervene is a crucial step towards neutralizing the public health threat that mental illnesses pose. This EBP change project not only benefited school faculty and parents (by increasing their MHL), but the students will also prevail with improved mental wellness, which ultimately leads to enhanced community health. Given the documented practice gap (per the Principal and across the state), the students, faculty and community at the school had the capacity to greatly benefit from implementing MHFA within the campus. Integrating MHFA into school settings better equips school faculty and parents to help vulnerable populations and locally mitigate the mental health crisis, thereby helping to defuse the public health threat.

Needs Assessment

A needs assessment was conducted for a school in the Western United States. In a meeting with the school Principal, it was discovered that the overall school lacked any mental health training and/or a mental health awareness program and felt as if they had room to optimize their community resources (pertaining to mental health). A strengths, weaknesses, opportunities and threats (SWOT) analysis was done after this meeting to determine barriers and facilitators to implementing a mental health knowledge intervention at the school. The biggest theme that drove the success of this project was the positive teamwork culture cultivated by the school leadership: Enthusiastic, willing staff that were excited and eager to help implement this mental health awareness training. This staff thrives and operates on a shared vision culture, which further facilitated the success of this scholarly project. Moreover, the identified area for improvement (improving the mental health awareness knowledge gap) was aligned with the school's strategic plan (as indicated by the Principal). The initiative to expand youth MHFA training across the public schools in the community (with some schools already successfully implementing this training) imparted further power; the project incentivized growth and aligned this school with this mental health awareness training advantage offered within some public school settings. As suggested in Moran et al. (2020), using the school's strengths (willingness, positive, shared vision culture and desire to align the school's strategic goals with the DNP project) to take advantage of opportunities (drive to increase mental health awareness training in the local schools) facilitated successful implementation of this project. However, the overall theme for potential barrier(s) were centered around external forces such as navigating any unforeseen financial burdens. This was mitigated to safeguard realization of this project. The

mitigation plan included optimizing the use of technology (free research databases to deploy surveys, etc.) to reduce costs.

Problem Statement

Mental illnesses pose hazards to community health in the U.S., constitute a high disease burden and call for novel community solutions; successful management of this crisis in the school setting requires a collaborative community approach (between parents and teachers) with a focus on enhancing MHL to improve outcomes. Many studies have documented the value of implementing programs such as MHFA within settings where adults supervise children and adolescents. These studies have documented improved MHL of such adults and overall improved community mental health outcomes (Morawska et al., 2013; Jorm et al., 2010, Morgan et al., 2019, Morgan et al., 2020; Pierce et al., 2010; Gryglewicz et al., 2018; Haggerty et al., 2019; Morgan et al., 2018). Moreover, research has proven that integrating MHFA within schools translates to superior community mental health outcomes (National Council for Behavioral Health, 2021). A needs assessment conducted at a school in the Western United States documented that the staff lacked sufficient mental health awareness training, putting the school community at a significant disadvantage to responding to mental health crises, and highlighted the need to implement this evidence based intervention to improve staff and parent MHL. Participation in this community-based mental health knowledge program aimed to increase the community's MHL. This project implemented and evaluated a mental health education program utilizing youth MHFA training within a community (school) setting to assist in improving MHL.

Purpose Statement

The purpose of this project was to implement an evidence-based mental health awareness education (youth MHFA) and sustainment program within a school setting for staff and parents supervising children and adolescents to optimize the adults' MHL over a three month period.

Evidenced-Based Practice (EBP) Question

Does MHFA training for adults (parents and staff) supervising children and adolescents in the school setting improve participants' MHL?

PICO

P: Adults supervising children and adolescents

I: Youth Mental Health First Aid training (MHFA)

C: No youth MHFA training

O: Mental health literacy (MHL)

Aims

The aims of this scholarly project were the following: (a) Increase the percentage of school staff trained in MHFA by 50% within three months of implementing youth MHFA training; (b) increase the mean MHL scores of parents and staff of the school by 50% within three months of the educational intervention; (c) establish a mental health champion at the school within three months of MHFA training; (d) increase the percentage of utilized community resources/mental health aids for the school by 20% within three months of MHFA training and; (d) develop (and ensure ease of use through usability testing) a mental health toolkit (website) containing evidence-based mental health aids, general mental health resources and community resources/connections for the staff and parents to assist with sustaining MHL.

Objectives

The objectives tied to this scholarly project were to: (a) Identify school community

readiness for change and any barriers to change by March 2021; (b) identify percentage of staff members trained with MHFA (pre-intervention); (c) identify baseline MHL of all community participants beginning Fall 2021 (pre-MHFA training); (d) implement MHFA training for all participating staff and parents beginning Fall 2021; (e) implement an evidence-based mental health toolkit (website containing general mental health information, community resources and evidence-based mental health materials) for the community to access after training in order to facilitate sustainment of mental health awareness and; (f) establish a mental health champion/lead at the school.

Outcome Measures

The measures for this project encompassed structure, process, outcome and balancing measures (Appendix A). Two structure measures were identified: a) Improving access to community resources and number of mental health resources for the school and b) assessing the community crucial needs to incorporate within the mental health toolkit. The process measure was targeted towards increasing the percentage of community MHFA training. The outcome measure focused on increasing the mean MHL score of participants. Finally, the balancing measure worked to assess if the MHFA training and mental health toolkit enabled the establishment of a mental health champion at the school.

Literature Review

Literature Synthesis

The Evidence Table (Appendix B) details each of the eight selected scholarly articles, as well as the three non-research resources: National Council for Behavioral Health, American Academy of Pediatrics (AAP) position statement pertaining to best practices for mental health in school settings and a CDC consensus on children's mental health in schools. The following sections compile the resources to provide a synthesis of the literature on the vitality of MHFA in

school settings, as they pertain to the outcome measures of MHL, optimizing community resources to support mental health in school settings and implementing school-based systems to sustain awareness.

Outcome Measure: Impact of MHFA on MHL

Three randomized controlled trials (RCTs), consistent with level of evidence I, and an overall quality rating of A-B, one systematic review of RCTs (level of evidence I and quality rating of A), and four quasi-experimental studies, consistent with level of evidence II and an overall quality rating of A-B, evaluated the impact (outcome) that MHFA had on the MHL of adults supervising adolescents and/or children in some capacity (Morawska et al., 2013; Jorm et al., 2010, Morgan et al., 2019, Morgan et al., 2020; Pierce et al., 2010; Gryglewicz et al., 2018; Haggerty et al., 2019; Morgan et al., 2018). Out of these studies, four incorporated MHFA training to teachers, three to parents, one to football coaches, another was more broadly summarized as consisting of a population in which 43.4% of the participants engaged with youth in their workplace and one article surveyed youth MHFA (YMHFA) within the mental health workforce and non-mental health workforce (including teachers and school administrative staff) for comparison (Morawska et al., 2013; Jorm et al., 2010, Morgan et al., 2019, Morgan et al., 2020; Pierce et al., 2010; Gryglewicz et al., 2018; Haggerty et al., 2019; Morgan et al., 2018).

Collectively amongst the RCT's and quasi-experimental studies, 1,565 adults (that had some level of supervision over children and adolescents) were enrolled in either MHFA or YMHFA and 348 were either enrolled in alternative first aid courses or waitlisted (trained at later dates) (Morawska et al., 2013; Jorm et al., 2010, Morgan et al., 2019, Morgan et al., 2020, Pierce et al., 2010; Haggerty et al., 2018; Gryglewicz et al., 2018). Sample sizes varied vastly between the studies, reporting sizes as low as 36 or as high as 458 (Pierce et al., 2010; Morawska et al.,

2013). While each study entailed a MHFA intervention, the type of MHFA training varied, five studies provided YMHFA training while the remaining three offered traditional MHFA (Morawska et al., 2013; Jorm et al., 2010, Morgan et al., 2019, Morgan et al., 2020, Pierce et al., 2010; Haggerty et al., 2018; Gryglewicz et al., 2018; Morgan et al., 2018). All studies listed variables associated with MHL (such as mental health knowledge, confidence and delivery of mental health care) as outcomes. Cooperatively, the research studied the effect of MHFA training between 4 months to 3 years (Morawska et al., 2013; Jorm et al., 2010, Morgan et al., 2019, Morgan et al., 2020, Pierce et al., 2010; Haggerty et al., 2018; Gryglewicz et al., 2018). The systematic review of RCTs and controlled trials employed by Morgan et al. (2018) offered strong reinforcement of the literature through tying in an additional 5,936 adults involved in MHFA trials aimed at evaluating the public education program's impact on mental health disorder recognition, MHFA knowledge, intentions or confidence to provide MHFA, treatment knowledge, provision of MHFA and stigma.

Four of the eight studies reported statistically highly significant (collective $p < 0.001$) improvements in MHL (specifically pertaining to increased mental health knowledge and confidence in providing care) (Jorm et al., 2010; Morawska et al., 2013; Gryglewicz et al., 2018; Haggerty et al., 2018). Although not as strong, the Pierce et al. (2010) study also reported statistically significant improvements in MHL, $p < 0.004$. Notably, Haggerty et al. (2018) established that MHFA training has the capacity to enhance the MHL of non-mental health workers to levels on par with that of the mental health workforce. This proves that MHFA can serve as a valuable tool for settings with no formal (or little resources pertaining to) mental health training. As additional reinforcement, the systematic review conducted by Morgan et al. (2018) conveyed improved recognition of mental disorders (ds 0.22-0.52), MHFA knowledge (ds

0.31-0.72), intentions to provide MHFA (ds 0.26-0.75) and confidence to help an individual struggling with a mental health problem (ds 0.21-0.58). However, in the remaining two articles (Morgan et al., 2019; Morgan et al., 2020) the impact of MHFA training on MHL was not found to have statistical significance, as pronounced by the small effect sizes (average *d* of 0.33). Yet, the Morgan et al. (2019) and Morgan et al. (2020) studies offered valuable insight (that the other studies did not include) into the longevity of MHFA impacts on MHL, as they collected data pertaining to MHL at 1, 2 and 3 year follow-ups. Analysis revealed that with time, the effect size of the intervention (MHFA) on the outcome (MHL) decreased minimally (Morgan et al., 2019; Morgan et al., 2020). Attrition was well accounted for in all studies, with the exception of the Pierce et al. (2010) research, that failed to offer details pertaining to lost participant follow up data. Although not optimal, the Morgan et al. (2019; 2020) studies conveyed high attrition rates (however details pertaining to reasons, primarily related to the extended follow-up, for these rates were documented).

Three non-research resources, all consistent with a level of evidence IV (and a constant A quality rating) also emphasized the ability of MHFA training to increase mental health knowledge, competencies and improve overall MHL (National Council for Behavioral Health, 2021; AAP, 2016; CDC, 2021a).

A fifth quasi-experimental study (level of evidence II and quality A) that evaluated the use of the mental health literacy scale (MHLS) to measure MHL was also reviewed to highlight the benefits of using this scale to evaluate MHL. As expected, the scale provides greater MHLS scores for mental health professionals versus other community members ($p < 0.001$) (O'Connor & Casey, 2015). The MHLS was found to have good internal and test-retest reliability and good

validity (O'Connor & Casey, 2015). The ability of this scale to efficiently evaluate individual changes in MHL makes it a valuable resource for measuring the impact of MHFA programs.

Outcome Measure: Expanding Community Resources to Optimize Mental Health Support

The AAP (2016), National Council for Behavioral Health (2021) and CDC (2021a) emphasize the need for strong community connections to strengthen support and optimize outcomes. Notably, the AAP (2016) commented that strengthening the collaboration between educational organizations and providers is one of the most vital modes of upholding the health of adolescents and children. The CDC (2021a) heightened this call for collaboration from the AAP by encouraging communities to partner with schools to assimilate mental health services. Implementing MHFA training within a school setting equips schools to serve as strong cohorts in healthcare. Furthermore, research has proven that training both parents and school faculty creates a dynamic dyad to enhance the response and improve outcomes for struggling children or adolescents; reaching into the community to establish a strong partnership between school faculty, parents, healthcare providers and other community resources has the capacity to optimize children and adolescent mental health outcomes (Jorm et al., 2010; Morgan et al., 2019; Morgan et al., 2020; CDC, 2021a).

Outcome Measure: Establishing Mental Health Teams/Champions in Schools

The AAP (2016) and National Council for Behavioral Health (2021) both encourage the use of mental health teams and/or champions within the school setting. The AAP (2016) promotes the use of crisis intervention teams (response teams) and school-based teams to endorse and sustain mental health competencies. MHFA can facilitate these response teams, as first aiders are trained on how to approach an individual in a mental health crisis scenario (National Council for Behavioral Health, 2021). Similarly, the National Council for Behavioral

Health (2021) highlights the vitality of establishing teachers as mental health champions within schools, noting that extending mental health first aiders into educational organizations creates an "invaluable tool to promote student health."

Recommendations for Clinical Practice Based on Evidence Synthesis

The synthesis of these findings represented strong, compelling evidence, consistent results: Solid indication for practice change was indicated; the vast majority of the evidence was level I or II and all evidence sustained A-B quality ratings (Dang & Dearholt, 2018). Just as first responders have the capacity to change the physical health outcomes of those in need, community members trained in MHFA have the power to positively influence mental health outcomes of struggling individuals. The National Council for Behavioral Health (2021) supports establishing MHFA within communities. Expanding MHFA offers support to the strained medical community; trained members of society can help identify, offer initial intervention and refer those suffering with mental illnesses. The ease of providing this training to the general public, as well as the documented encouraging impacts on improving MHL, permits simple translation of this program into practice. The findings are also relatively generalizable (can be applied across populations), as evidenced by the broad spectrum of adult professionals and parents that had improved MHL with MHFA training. MHFA has the potential to confidently influence public health outcomes.

Fit and Feasibility

This EBP initiative fit with the goals and priorities of the school. During a meeting with the school leadership, it was expressed that addressing the school's mental health knowledge gap was a priority. Additionally, the feasibility of this project was strong, as evidenced by the

verbalized readiness for change within the organization. The benefits of implementing MHFA training within struggling communities outweighed any potential risks.

EBP Translation Model

The Johns Hopkins Nursing Evidence-Based Practice (JHNEBP) model was employed to guide the practice initiative of implementing and sustaining MHFA into a school in the Western United States. The JHNEBP model is authored by Sandra Dearholt and Deborah Dang and was developed as a collaborative initiative by the Johns Hopkins Hospital and Johns Hopkins School of Nursing (Dang & Dearholt, 2017). This model empowers clinical decision making through its simple problem-solving approach and is applauded for its ease of use even among the most novice of nurses (Dang & Dearholt, 2017). This problem-solving approach is composed of a model that encompasses the three step process of P-E-T: Practice question, evidence and translation (Dang & Dearholt, 2017).

The three stage PET process is further defined by additional steps. The Practice question (P) stage entails six steps: "Recruiting an interprofessional team, defining the problem, developing and refining the EBP question, identifying stakeholders, determining project leadership responsibility and scheduling team meetings" (Dang & Dearholt, 2017). The evidence (E) stage consists of composing a systematic review of the practice question: Performing a literature search, appraising level and quality of evidence, summarizing and synthesizing evidence and developing recommendations for change based upon synthesis of evidence (Dang & Dearholt, 2017). Finally, the third stage, translation (T), details "determining fit and feasibility of recommendations, creating an action plan, securing support and resources to implement plan, implementing action plan, evaluating outcomes, reporting outcomes to stakeholders, identifying next steps and disseminating findings" (Dang & Dearholt, 2017). Unlike comparable EBP

models, the JHNEBP model enables the rapid incorporation of best practices into patient care (Dang & Dearholt, 2017). This can be advantageous when best practices are updated and communities would benefit from quick translation into practice. Given the urgency of the mental health crisis in the U.S., choosing a model that aids quick adoption of best mental health practices was vital; utilizing the JHNEBP model allowed for this. The steps of the JHNEBP model were applied to this MHFA practice initiative. The following section details how each stage of P-E-T was addressed:

Practice Question (P)

Recruit an Interprofessional Team. Recruiting an interprofessional team to decipher needs and gaps in practice is instrumental to ensuring necessary changes are made (Dang & Dearholt, 2017). In this school setting, the interprofessional team consisted of the Principal, Nurse Leader (leading this EBP initiative), school faculty and Parent-Teacher Association (PTA). A meeting was held to discuss the needs and voids within the school in order to determine areas for change.

Define the Problem. The problem that was highlighted as a need within the school falls into the educational realm: There was a documented knowledge gap within the school community pertaining to MHFA training. The school was not equipped to respond to the mental health needs within its community.

Develop and Refine EBP Question. This step uses a PICO to help frame the research question. The following PICO was formulated to guide the EBP response: (P) adults supervising children and adolescents, (I) MHFA, (C) No MHFA training and (O) MHL. For the purpose of this EBP initiative, the pre-implementation data served as the (C) comparison.

Identify the Stakeholders. Identifying and considering the stakeholders was vital to successful implementation of the practice change (Dang & Dearholt, 2017). Stakeholders constitute anyone that may be impacted by or have an interest in organizational decisions (Dang & Dearholt, 2017). In this initiative, the stakeholders were the school staff, students and parents.

Determine Responsibility for Project Leadership. Appointing a leader prior to employing change is vital to ensuring success (Dang & Dearholt, 2017). Chosen leaders must incapsulate the ability to work with interprofessional teams and have knowledge pertaining to EBP (Dang & Dearholt, 2017). The Nurse Leader assumed this role. As a Family Nurse Practitioner (FNP) governed by EBP to guide clinical practice, and 15 years of nursing experience working with interprofessional teams, the qualifications for assuming this role were met.

Schedule Team Meetings. Research indicates that EBP changes are more likely to succeed when consistent team meetings are employed (Dang & Dearholt, 2017). Plans to meet monthly were established after the initial project was identified.

Evidence (E)

Systematic Review. A literature search was performed by the Nurse Leader with the assistance of Ellaine Sullo, a Himmelfarb Reference Librarian at the George Washington University on October 12th, 2020. Evidence was gathered from Medline, PubMed, PsychInfo and the Cochrane Central Registry of Controlled Trials databases as well as the National Council for Behavioral MHFA Research Summary, AAP and CDC. The search terms used were a combination of independent phrases such as ‘mental health first aid,’ ‘MHFA,’ as well as those containing Boolean operators to focus the search: ‘MHFA AND teacher,’ ‘MHFA AND parent,’ ‘MHFA AND coach,’ ‘MHFA AND high school,’ ‘mental health first aid training AND youth’

and ‘mental health first aid training and student.’ Inclusion criteria consisted of a) experimental studies, b) MHL measured as an outcome, c) MHFA as an intervention, d) adults over the age of 18 supervising children and adolescents, e) all modes of training delivery (in person, blended or online), f) comparison group, g) published between 2010-present and h) English language. Exclusion criteria included a) studies that did not train adults supervising children, adolescents or young adults on MHFA, b) non-experimental studies, c) participants under 18 years old providing MHFA, d) studies that did not measure MHL as an outcome and e) studies published prior to 2010. After duplicates were removed, the literature search yielded 66 articles. 56 of these articles were removed post abstract evaluation, rendering a final 10. Two of these 10 articles were excluded based upon the premises of not meeting the inclusion criteria. This resulted in a final 8 articles deemed appropriate for qualitative synthesis. Independent extraction of the data was performed by the Nurse Leader. In addition, individual and synthesized results of the studies was compiled by the Nurse Leader, which enabled the processes of quality appraisal and strength of evidence. The quality appraisal was facilitated by the Johns Hopkins Nursing Evidence-Based Practice Research Evidence Appraisal Tool (Dang & Dearholt, 2018). Given the strong compelling evidence and consistent results derived from the quality appraisal, the Nurse Leader made the recommendation of implementation of MHFA into practice. Based upon this, the JHNEBP model aligned this literature search with “good and consistent evidence,” suggesting the pilot changes should be considered (Dang & Dearholt, 2017). Additional non-research based resources were accessed for further support, to include the National Council for Behavioral Health, the AAP School Health Policy and Practice regarding addressing mental health in the school setting and the CDC’s consensus on children’s mental health in schools.

Translation into Practice (T)

Determine Fit and Feasibility of Recommendations for Translation Plan. The JHNEBP model outlines the importance of assessing organizational readiness for change prior to implementing EBP initiatives (Dang & Dearholt, 2017). The school expressed a desire and readiness for change within their facility. A shared meeting led to the Principal detailing the need for improved mental health knowledge within the school. Additionally, staff expressed an interest and desire to learn. Moreover, parents within the community detailed their concerns related to the rise in children's mental health problems as a result of the pandemic and expressed interest in learning management tools catered to their level. This EBP change project fit within the organizational priorities, which made the likelihood of success high (Dang & Dearholt, 2017).

Create Action Plan. Given the strong, compelling strength of evidence as well as the organizational readiness and prioritization for this change, implementing the EBP initiative into practice at the school was the next step. Prior to starting the change project, Human Subjects Determination approval was received from The George Washington University (GWU); the school does not have their own approval board. Once this was established, all interested school staff and parents (reached through recruitment flyers and an email from the Principal) were screened for inclusion. Inclusion criteria was defined as English speaking adults (male or female) aged 18 years or older who supervise children or adolescents within the school in some capacity (either as school staff or parents). Exclusion criteria was defined as: Non-English speaking, staff or parents younger than 18 years old and staff or parents that did not have supervising roles of enrolled children. Consent from the sample population was obtained prior to initiating the project.

The intervention entailed having the sample undergo youth MHFA training. The training was delivered in a blended model (two hours of independent pre-coursework and 5.5 hours of in-person group training) by the Nurse Leader after being trained as a youth MHFA instructor. The outcome to be achieved was improved MHL of the sample population. As previously mentioned, baseline data pertaining to the MHL of the selected staff and parents (who had no prior formal mental health training) was collected pre-intervention and used as a comparison. The Nurse Leader also collected MHL data three months post project implementation. The MHL data was collected with the MHL scale (MHLS), which is inclusive of 35-items and surveys the "ability to recognize disorders, knowledge of where to seek information, knowledge of risk factors and causes, knowledge of self-treatment, knowledge of professional help available, and attitudes that promote recognition or appropriate help-seeking behaviour" (O'Connor & Casey, 2015). Collection of this pre/post MHL data enabled the Nurse Leader to measure if employing MHFA within the school setting led to improvements in MHL and decipher whether the study outcome was achieved.

Securing Support. The JHNEBP model outlines the need for securing support for the initiative prior to implementation to ensure success. The main sources of support were the Principal (supporting the Nurse Leader to meet the organizational needs), the Himmelfarb Librarian (supporting the Nurse Leader with the literature review), the National Council for Behavioral Health (facilitating the Nurse Leader's MHFA instructor training and the MHFA aider training) as well as all the staff and parents (who were open to enabling change).

Implement Action Plan. Prior to implementing the project, the JHNEBP model calls upon leaders to define the four P's (purpose, picture, plan and participation) for implementing the action plan (Dang & Dearholt, 2017). The *purpose* was outlined as the need to provide the

school with MHFA training to better equip their community to respond to the rising mental health needs. A clear *picture* of how this change would impact the organization was conveyed, highlighting voluntary participation, and the only time commitment required as the MHFA training and the pre/post MHLS surveys. The *plan* (as detailed above) was also outlined, and *participation* was propelled by sharing data pertaining to the positive impact that MHFA training has on MHL and the overall well-being of communities. The final JHNEBP model steps (evaluating and reporting outcomes, identifying next steps and disseminating findings) are detailed in the evaluation section (below).

Evaluation

The impact of the EBP initiative is best measured through validated tools (Dang & Dearholt, 2017). The MHLS is a validated tool designed to assess population and individual MHL variances and is helpful when assessing the impact of programs designed to enhance MHL (such as MHFA) (O'Connor & Casey, 2015). O'Connor and Casey (2015) also detailed good test-retest and internal reliability of the MHLS. As previously discussed, the MHLS was provided to the participants prior to the MHFA intervention, and then collected again three months post MHFA training. Statistical analysis through paired t-tests was measured to determine differences in MHL pre/post intervention. The validity controls were the following: The same subjects pre and post intervention, utilization of a validated tool to measure MHL, equal MHFA training for all participants and the same instructor (the Nurse Leader) for the training.

Part of the EBP initiative also entailed the Nurse Leader creating a mental health toolkit (website) for use of staff and parents. The toolkit contains general mental health information, evidence-based mental health tools and materials and community resources for staff and parents

to reference at their convenience. This site permits continued monitoring and sustainability of the initiative; the toolkit will be maintained and updated with best mental health reference material for staff/parents every six months by the Nurse Leader. To ensure that the site is easily utilized by users, the usability of the toolkit was measured through usability testing with each semi-annual update (Usability.gov, 2020). Usability testing calls upon the Nurse Leader to listen to the feedback from the users regarding ease of site use, with the goal of identifying and fixing technical use barriers in order to maximize use (Usability.gov, 2020). The finding that indicated that the initiative was successful was positive usability toolkit testing feedback. The remaining steps of the JHNEBP model (reporting outcomes to stakeholders, identifying next steps and disseminating findings) was accomplished through: (a) Disseminating the findings through a shared meeting with all stakeholders and (b) analyzing the outcomes to decipher whether this practice change should be used more widely across the community (Dang & Dearholt, 2017).

Methods

Design

This DNP project was a pre and post intervention evidence-based practice design (Moran et al., 2020). This was chosen because many studies have shown the value of implementing MHFA training in similar settings (schools) as a method of increasing MHL (Jorm et al., 2010, Morgan et al., 2019, Morgan et al., 2020; Pierce et al., 2010; Gryglewicz et al., 2018; Haggerty et al., 2019). The organization (school) used for this project did not have a mental health knowledge program; hence, the design of this project aimed to translate the evidence of MHFA into practice. The same participants were used pre and post intervention.

Participants

Inclusion criteria: English speaking, male and female school community staff and parents of any ethnicity, who were between the ages of 18 and 65 years, had some supervisory role over children attending the school, and no prior MHFA training.

Exclusion criteria: Non-English speaking, school community staff and parents less than 18 years old, no supervisory roles over children attending the school and those who had previously undergone MHFA training.

Recruitment: A convenience sample was used to recruit participants. School staff was recruited on a voluntary basis through staff emails as well as with a formalized invitation from the school Principal. Staff were not required to undergo training by leadership. School community parents were voluntarily recruited through a school email and flyers (Appendix D) sent home with students. Five individuals that underwent the MHFA intervention were recruited (through convenience sampling) and asked to participate in the MHFA toolkit (website) usability testing. Similar to the MHFA intervention, involvement in the usability testing was completely voluntary. This project was a pilot study, and all available participants were included (there were not enough participants to perform a power analysis and determine an effect size).

Setting

The project was completed in a private school in the Western United States, encompassing preschool through eighth grade, from August 2021-January 2022. The population within this educational setting consisted of a staff of 20 (10% male, 80% female) with a mean age of 37.5. Only .05% of the staff members had any formal mental health training. 177 students (52% multiracial) attended this school.

Interventions

Youth MHFA

The primary intervention focused on implementing an educational program (youth MHFA training). The aim was to enhance the participants' MHL by employing MHFA training, to improve the overall mental health outcomes within the school community. The comparison to the intervention was no mental health training (pretest MHL data); there was no mental health training for the school faculty (and/or parents) prior to this project. Participants were recruited from the designated school in the Western United States. The MHFA training was delivered once to all participants. Each participant completed 7.5 hours of youth MHFA training delivered by an accredited youth MHFA instructor (the Nurse Leader). The first two hours was completed independently by the participants at home (course pre-work), while the remaining 5.5 hours was completed in-person (with all local COVID mandates and safety precautions met) as a group with the Nurse Leader. The training was developed by the National Council for Behavioral Health and teaches participants to recognize symptoms of common mental illnesses (and substance use disorders), safely de-escalate crises situations and initiate timely mental health referrals within the community (National Council for Behavioral Health, 2021). Youth MHFA specifically teaches adults how to approach these issues with adolescents/children (National Council for Behavioral Health, 2021). The National Council for Behavioral Health (2021) authorizes training to transpire either virtually via a remote platform (such as Zoom) or in-person on the school campus, dependent upon pandemic restrictions. This class included a participant manual from the National Council for Behavioral Health (2021). The goal of the youth MHFA training was to increase the participants' MHL (as proven in the literature) (Jorm et al., 2010,

Morgan et al., 2019, Morgan et al., 2020; Pierce et al., 2010; Gryglewicz et al., 2018; Haggerty et al., 2019).

Following approval from the George Washington University (GWU) School of Nursing Research Department for Human Subject Determination and Institutional Review Board (IRB) status participants were recruited from the designated school. Recruitment was accomplished by the Principal of the school formally inviting (via email) school staff and disseminating flyers to the parents (sent home in the students' folders). An email with an invitation to participate from the school was also sent to parents. The flyer included an email and telephone number to reach the Nurse Leader. Inclusion criteria consisted of school staff and parents 18 years or older who supervised children and/or adolescents that attended the school, with no prior formal MHFA training. School staff and parents were not excluded based upon ethnicity, socioeconomic status, educational level or being medically insured or uninsured. Individuals that were interested and met the inclusion criteria met with the Nurse Leader and informed consent was performed. The same day/immediately following informed consent, the participants were sent two surveys: MHLS and demographic surveillance (age, ethnicity, educational level, and medically insured or uninsured). These surveys were sent electronically to the participants via the Research Electronic Data Capture (REDCap) secure web application (n.d.). REDCap offers an established Health Insurance Portability and Accountability Act (HIPAA) compliant platform for researchers to collect data through online surveys (REDCap, n.d.). Due to this being sent electronically, participants were able to complete the surveys on their own time and in their own preferred location, however, it was asked that they complete it within 72 hours of receipt. Participants that did not have access to a smart phone, laptop or computer to complete the electronic surveys were provided paper copies as an alternative. Any paper copies were completed anonymously,

enclosed in a sealed file envelope and left in a locked cabinet in the school office for the Nurse Leader to pick up upon completion (within 72 hours of receipt). The initial MHLS survey was used as comparative data (to assess the participants' baseline MHL).

Once informed consent was completed, demographic data was collected and baseline MHLS surveys were submitted, participants were asked about their preferred dates/times for the youth MHFA training. The most frequently requested day/time was scheduled for training. Participants then completed the first two hours of National Council for Behavioral Health youth MHFA pre-coursework independently (completion of pre-coursework was required before attending the in-person training), and the remaining 5.5 hours was led by the Nurse Leader in-person and completed as a group on the designated date/time. All local and national COVID mandates were respected and followed during the in-person segment.

Once the MHFA training was complete, the participants were asked to take the MHLS survey again, three months post training. An email reminder was sent to participants at week 12, and the survey was deployed via REDCap again (sent electronically to the participants' emails at the beginning of week 12). The same electronic survey completion rules applied as discussed above. The logic for collecting the survey three months after the initial measure was to give the participants time to use the training, gain insight and reflect on their newly acquired skills. MHLS data was scored and MHL scores were compared pre and post intervention to assess how the intervention (MHFA training) impacted the school community's MHL.

Mental Health Toolkit and Usability Testing

The secondary intervention employed was the creation of a MHFA toolkit (website) for the school staff and parents. The website provides evidence based mental health aids for school staff and parents, general mental health resources and community connections. This toolkit

provided the school community with resources to sustain their MHL and helped to drive the establishment of a mental health champion at the school. All participants were surveyed two weeks after MHFA training to determine what materials (embedded within the toolkit) would best help them sustain their MHL. Once surveyed, Weebly's website development platform (professional version) was used to develop the website and incorporate the participants' feedback (Weebly, n.d.). To promote equitable access to the toolkit, the completed website was checked for American Disabilities Act (ADA) compliance with Weebly's preexisting ADA compliance scanner (Weebly, n.d.). After the toolkit was developed and checked for ADA compliance, usability testing of the website was conducted. Usability testing ensured school staff and parent ease of access to the website (Usability.gov, 2021). This enhanced the effectiveness of the tool (Usability.gov, 2021). Using the guidance delivered from Usability.gov (2021) a usability test was planned by: (a) Defining the scope: clearly outlining what is being tested (the MHFA toolkit); (b) outlining the purpose of the test ("can users navigate to important information from the home page?"); (c) establishing a date and time for testing (collectively determined by the Nurse Leader and participants); (d) clearly explaining session(s), outlining length and/or commitment to participants; (e) advising of specific technology needed (i.e.: laptop or computer); (f) defining specific participants to test product(s), such as the school leadership, faculty and parents; (g) establishing subjective metrics (participant satisfaction with ease of use); (h) establishing quantitative metrics (successful task completion rates) and; (i) clearly defining who would participate in usability testing (evidence suggests that a minimum of five users were needed to find usability problems) (Usability.gov, 2021). The Concurrent Think Aloud (CTA) technique was used as the moderating method to test usability of this toolkit (Usability.gov, 2021). This method encourages participants to speak out loud as they work, providing real-time

feedback (Usability.gov, 2021). The first step to employing this method was to recruit (through emailing all original project participants) the five subjects through convenience sampling. Following this, steps a-e (above) were relayed to the participants. Usability testing transpired in-person and all national and local COVID precautions/mandates were respected and met. Each participant underwent testing individually, to prevent influence from other participants (Usability.gov, 2021). Using the CTA technique discussed above, during the usability session, the participant satisfaction with ease of use and successful task completion rate data was collected (discussed further in the data collection section). Additionally, a pilot test was conducted 1-2 days prior to the usability testing to alleviate any technical issues/barriers that could have impaired the usability testing (Usability.gov, 2021).

Mental Health Champion

As recommended by the CDC, AAP and National Council for Behavioral Health, a mental health champion/lead was established at the school. This occurred three months after the MHFA training and after the mental health toolkit had been developed and tested for usability. One school staff member was recruited to be the mental health champion/lead for the school. The invitation to voluntarily serve in this capacity was sent out via an email from the Principal during month three. The literature emphasizes that this individual does not have to have any special training or skills (CDC, 2021a; AAP, 2016; National Council for Behavioral Health, 2021). Hence, there were no pre-requisites (outside of being a school staff member and a participant in the project) for the individual selected for this role. The job of the mental health champion was to use the mental health toolkit to take ownership of the opportunities the school can take to improve mental health outcomes. Ultimately (long term), this person takes the lead in implementing school based mental health programs tailored to the needs of the school.

Risks

The risks of this study were related to psychological distress and privacy. Measures were employed to neutralize the potential risks. The topic of mental health can sometimes cause psychological distress for participants. Participants were allowed to take breaks from the class as needed and/or not participate in any sections that elicited discomfort. The risk for an invasion of privacy was offset through maintaining confidentiality (subjects' responses remained anonymous). This inquiry was void of conflicts of interest tied to the Nurse Leader. Participation was entirely voluntary and withdrawal from the pilot project could occur at any time with no consequence.

Benefits

By translating MHFA into this school setting, the school community (adult staff and parents) benefited by improving their mental health knowledge. Historically, this has proven to be pivotal in the early identification and treatment of mental health disorders in children and adolescents. Terminally, this could improve the overall health of the school community and reduce the community's healthcare associated costs (tied to mental health disorders). These potentially paramount benefits outweighed any remote risk associated with this project.

Human Subject Determination and IRB Status

A proposal was reviewed by the GWU School of Nursing Research Department for Human Subject Determination and IRB status prior to implementation of this project. On June 3rd, 2021, it was determined that this project did not meet the definition of human subject research (it did not aim to inform new theories or external standards of practice) and that further review by the university IRB was not required. Collaborative Institutional Training Initiative (CITI) Human Research (Social and Behavioral Research and Biomedical Investigators) training

was completed in January 2021. This same training was also required of all committee members and program administrators supporting and advising the Nurse Leader (GWU, 2021).

Informed Consent

Permission to consent and recruit participants from the school was granted by the Principal. This was established through directly contacting the Principal and discussing the project of interest (POI). The procedure for obtaining informed consent, established by the U.S. Department of Health and Human Services (2016), was followed. All participants received a detailed verbal explanation of the project, outlining the purpose, procedure, risks, benefits and alternatives (HHSb, 2016). The participants were then provided with a written consent (Appendix C) and provided time to consider their choices (HHSb, 2016). Once the participants had time to consider involvement, the Nurse Leader met with the participant and responded to any unresolved questions (HHSb, 2016). To gauge participant comprehension, open ended questions were asked (HHSb, 2016). The final step was providing the participant with a copy of the consent (HHSb, 2016). These steps safeguarded the project's credibility and ethical grounds.

The Mental Health Literacy Scale (MHLS) Measurement Tool

The MHLS (Appendix D) assesses MHL (attitudes and knowledge about mental health that assist in identification, management and deterrence of mental illnesses) (O'Conner & Casey, 2015). This scale encompasses all seven attributes of MHL: (a) Ability to recognize specific disorders; (b) knowledge of how to seek mental health information; (c) knowledge of risk factors and causes; (d) knowledge of self-treatments; (e) knowledge of professional help available; and (f) attitudes that promote recognition and appropriate help seeking behavior (O'Conner & Casey, 2015). The MHLS is an easily administered and scored, univariate, 35-item scale that permits for easy and efficient evaluation of population and individual MHL. Scoring is conducted by

summing all items; the max score is 160 and the minimum score is 35, with a higher score translating to higher levels of MHL. Items using a 5-point Likert scale are scored with a (1) for strongly disagree/definitely unwilling and a (5) for strongly agree/definitely willing, whereas items using a 4-point Likert scale are scored with a (1) for very unlikely/unhelpful and a (4) for very likely/helpful. Item numbers 10, 12, 15, 20-28 are reverse scored (O'Conner & Casey, 2015). The score was originally developed for use in Australia, but has since been used in other countries. Permission was obtained from the MHLS authors Matt O'Conner and Leanne Casey on March 23rd, 2021 to use the scale and modify items nine and ten (which ask participants to generalize their experiences in Australia) to reflect experiences' in the US. Additionally, the authors also asked that items five and eight be modified with the following: "To what extent do you think it is likely that Persistent Depressive Disorder (Dysthymia) is a disorder (item five)" and "to what extent do you think it is likely that the diagnosis of substance abuse disorder can include physical and psychological tolerance of the drug (i.e.: require more of the drug to get the same effect) (item eight)."

The MHLS was tested over three phases: Measurement development, pilot testing and method and psychometric testing. A community sample was used for psychometric testing: 94 male and 278 female, first year university students in Australia were recruited (O'Conner & Casey, 2015). An additional 37 female and 6 male mental health professionals were also enrolled via professional networks for comparison (control group). Ethical clearance was obtained from Griffith University Ethics Committee. Blinding was completed by giving each participant a unique code known only to them (needed to measure test-retest). The community sample was utilized to produce MHLS descriptives. The mean MHLS score was found to be 127.38, with a normal distribution of the scale (*Kurtosis* -0.231 and *Skewness* -115). The readability grade level

was determined as 7.6 (obtained by using the Flesch-Kincaid formula). T-tests were done to evaluate differences amongst groups expected to have differences in their MHL (ex: mental health professionals and community sample). As expected, mental health professionals had much greater MHLS scores than the community sample ($p < 0.001$). Consensus based standards for the selection of health instruments (COSMIN) were used to evaluate the methodological quality of the MHLS. Six out of nine needed domains (reliability, internal consistency, content validity, measurement error, structural validity, and hypothesis testing) were adequately assessed. Overall, the scale was found to have good test-retest, internal reliability and validity (O'Conner & Casey, 2015).

Data Collection

The MHLS surveys and participant demographics were collected electronically through REDCap using the strategies and protocols discussed in the MHFA intervention section. The MHLS surveys were collected once at baseline (prior to youth MHFA training) and again three months after training. The demographics were collected at the same time that the initial MHLS survey was done.

Data collection to identify the most important materials to embed within the mental health toolkit (in order to sustain knowledge) was conducted two weeks after MHFA training by deploying an electronic survey through REDCap to all participants. Data collection for the mental health toolkit usability testing was collected in real-time, as outlined by Usability.gov and discussed in the mental health toolkit and usability intervention section (2021). Specifically, data was collected on participant satisfaction with ease of use of the toolkit and successful task completion rates (as prescribed by Usability.gov and followed by the Nurse Leader) (usability.gov, 2021). Based upon the usability reports, adjustments were made as needed until

100% of the usability participants' reported ease of use of the toolkit and successful task completion via the real-time feedback/CTA method discussed in the mental health toolkit and usability testing section.

Data collection to survey the number of staff trained in MHFA was collected post project implementation during an interview with the school leadership (baseline/absent training was already conveyed during the needs assessment meeting). Data collection pertaining to the utilized community resources/mental health aids transpired during an interview with the school leadership once prior to project implementation and again after three months. Finally, data collection to measure the establishment of a mental health champion within the school post training transpired three months after MHFA training by interviewing the school leadership (Principal) and inquiring about the presence of a mental health champion.

Data Maintenance and Security

All the data collected remained anonymous. Subjects were assigned a random number as a means of linking their MHLS survey data for purposes of analysis. Confidentiality was maintained through this process. Due diligence was conducted to maintain confidentiality, ensure data security and ethical composure. Data security and confidentiality was ensured through use of secure storage (HHSa, 2016). Any paper forms (such as handouts and/or consents, or anything containing personally identifying information, PII) was securely stored in locked file cabinets (HHSa, 2016). Any PII that was handled electronically was protected through the activation of a screen-saver lock-out function and via secure passwords (HHSa, 2016). The subjects' demographics and MHLS scores remained anonymous to promote confidentiality of their responses. After study completion, the data was destroyed by permanently deleting any electronic information and shredding all paper documents (HHSa, 2016).

Data Analysis

A GWU biostatistician (Dr. Pearl Zhou) was consulted on April 1st, 2021 to discuss data analysis methods. Pre and post intervention MHLS survey data was compiled into an excel datasheet. Average MHL scores were calculated before and after the intervention. The mean and mode of the demographics were also calculated (age, ethnicity, educational level, and medically insured or uninsured). This allowed for an understanding of the study population. The next step was to upload the excel data into Statistical Package for the Social Sciences (SPSS) Version 28 to perform a paired t-test to assess the differences of MHL scores before and after the MHFA training (Laerd statistics, 2018). Assumptions one through four, required for use of the paired t-test, were met in this design: (a) Dependent variable measured at a continuous level (MHL scores were calculated to create a numeric value), (b) the independent variable consisted of two related (same subjects) groups, (c) no significant outliers, and (d) relative normal distribution of differences (Laerd statistics, 2018).

The staff MHFA aider training rate was calculated as a percentage of all eligible staff that successfully completed training and compared to baseline data for percentage increase at the project completion. The percentage of utilized community resources/mental health aids rate was calculated as a percentage of community resources utilized at project completion and compared to baseline data for change.

For the usability testing, the task completion rate and participant satisfaction with ease of use was analyzed in real-time during usability testing. The task completion rate was calculated as a percentage of all participants that successfully completed assigned tasks, and the participant satisfaction with ease of use rate was calculated as a percentage of all participants that find the toolkit easy to navigate/use (as verbalized with the CTA method).

Plans for handling missing data (as needed) was accounted for by listwise deletion (deleting all data from participants with missing information) (SAMHSA, 2018).

Resources Needed

The resources needed for this scholarly project were support from the: (a) School (staff, leadership and parents) for both participation and presentation of materials, (b) National Council for Behavioral Health (for training purposes) and (c) community (to enhance community connections). Technology (to deploy electronic surveys, develop the mental health toolkit and ensure adequate usability) was also a fundamental resource.

Cost-Benefit Analysis

The Mind Tools Limited Cost-Benefit Analysis (CBA) was used to determine the cost of the project relative to its potential value (Mind Tools, n.d.). This tool was recommended in the Moran et al. (2020) DNP Practice Project book as a method for determining the CBA. The tool asks for monetary values to be assigned for all the costs as well as the benefits. This tool permits users to estimate the value for benefits that are challenging to assign specific monetary values to. For example, in this project, MHFA (for adults supervising children and adolescents) has been proven to improve mental health outcomes for children; earlier identification and treatment reduces healthcare associated costs. Rand Health (2021) breaks down the individual healthcare costs per child (divided into outpatient care, inpatient care, medications, and other mental health services) to $6,971. There are roughly 177 children at the school. Therefore, $6971 x 177 = $1,233,867. This number was used to assign monetary value to the potential benefit(s) of the project specific to the school community.

Most of the school costs were associated with printing and training. The specific flyer that was printed cost approximately 0.46 cents per flyer. 100 were printed, bringing the cost to

$46. As previously stated, the training was blended (2 hours done independently with pre-work, and the remaining 5.5 done in-person). The school had all the presenting equipment required (no costs associated with presenting educational material). For the surveys, REDCap was used to send out electronic surveys, and paper surveys were deployed to the participants that didn't have access to technology or encountered technology problems. The cost of paper surveys was estimated at another $46. The cost of youth MHFA training was approximately $24 per participant. There were 15 participants, for a total of $360. This amounts to a total cost of $452. Appendix E provides a table detailing the CBA. The following formula was used to highlight how the benefits override the costs:

Total cost of project/total cost of benefits = length of payback period

The CBA for this project was: $452 (total cost of project)/ $1,233,867 (potential total benefit/money saved by reducing the community's childrens' healthcare costs) = 0.00036633 months. This translates to an almost immediate payback of the value of the intervention. With approximately one third of the local population receiving insurance through Medicaid/Children's Health Insurance Program (CHIP), in the long-term, this project could extend the cost-savings beyond the family unit and lead to decreased state healthcare associated costs (Center for Children and Families, 2021). Based upon this, it can be confidently stated that the cost benefits of the project significantly outweighed the total costs.

Project Timeline

See Appendix F for a Gantt chart depicting this project's timeline.

Evaluation Plan

A logic model (Appendix G) was used to evaluate this project. Logic models provide a visual representation of a project's resources, activities, short, medium and long term outcomes

(National Institute of Health, n.d.). This provides a simple way for all stakeholders to conceptualize this project. The main resources (investments) in this project were the educational intervention (MHFA training), the website (toolkit) development and establishment of a mental health champion/lead. The short-term goals associated with this scholarly project were to: (a) Increase the percentage of community members trained in MHFA; (b) obtain community baseline and post-intervention MHL data; (c) ensure ease of use of the mental health toolkit and; (d) empower a school staff member to take ownership as the mental health lead. The medium-term outcomes aimed to: (a) Increase the community's MHL (analyze data to determine the effect of MHFA training on MHL); (b) disseminate (and update as needed) a mental health toolkit to the school community to sustain MHL and; (d) enable the mental health champion to take ownership of the opportunities the school can take to improve mental health outcomes with the information available on the toolkit. This will result in the desired long-term outcomes of: (a) Prevention of poor mental health outcomes; (b) sustained MHL and access to up to date evidence-based mental health materials for the community and; (c) the school mental health champion implementing school based mental health programs/initiatives based on the needs of the school. The specific long-term effect of preventing students' poor mental health outcomes was not directly measured in this project, as it requires data collection and analysis beyond this project's scope. However, as detailed in this proposal, evidence has shown that MHFA improves mental health outcomes of its' recipients. It can be assumed that this setting will benefit similarly from implementation of this project.

Results

Purpose

The purpose of this project was to implement an evidence-based mental health awareness education (Mental Health First Aid, MHFA) and sustainment program within a school setting for staff and parents supervising children and adolescents to optimize the adults' MHL over a three month period. The COVID-19 pandemic amplified the existing mental health crisis in the United States. Mental illnesses pose hazards to community health, constitute a high disease burden and call for novel community solutions; successful management of this crisis in the school setting requires a collaborative community approach (between parents and teachers) with a focus on enhancing Mental Health Literacy (MHL) to improve outcomes. A needs assessment at the organization where this project was implemented documented that staff lacked sufficient mental health awareness training, putting the school community at a significant disadvantage to responding to mental health crises, and highlighted the need to implement this evidence based intervention to improve staff and parent MHL.

Study Aims and Data Analysis

The aims of this scholarly project were the following: (a) Increase the percentage of school staff trained in MHFA by 50% within three months of implementing MHFA training; (b) increase the mean Mental Health Literacy (MHL) scores of parents and staff of the school by 50% within three months of the educational intervention; (c) establish a mental health champion at the school within three months of MHFA training; (d) increase the percentage of utilized community resources/mental health aids for the school by 20% within three months of MHFA training and; (d) develop (and ensure ease of use through usability testing) a mental health toolkit (website) containing evidence-based mental health aids, general mental health resources and

community resources/connections for the staff and parents to assist with sustaining MHL. Data analysis for each aim is reviewed below.

Aim One: Increase the Percentage of School Staff Trained in MHFA by 50% Within Three Months of Implementing MHFA Training

The staff MHFA training rate was calculated as a percentage of all eligible staff that successfully completed training and compared to baseline data (number of staff trained pre-intervention) for percentage increase at the project completion.

Aim Two: Increase the Mean MHL Scores of Parents and Staff of the School by 50% Within Three Months of the Educational Intervention

Participants' baseline MHL scores were measured with the MHLS, a survey used to assess general population (no medical background required) attitudes and knowledge about mental health that assist in identification, management and deterrence of mental illnesses (O'Conner & Casey, 2015). Three months after the training, the MHLS was provided to participants for completion again to measure change. Pre and post MHL scores were calculated, and averaged, before and after the intervention. The average pre and post intervention MHL scores were compared and the difference between the two were calculated as a percentage. In addition, this MHL data was uploaded into Statistical Package for the Social Sciences (SPSS) Version 28 to perform a paired t-test to assess the differences of MHL scores before and after the MHFA training (Laerd statistics, 2018).

Aim Three: Establish a Mental Health Champion at the School Within Three Months of MHFA Training

The establishment of a mental health champion at the school was analyzed after surveying the school leadership and inquiring whether a mental health champion was established

at the school three months post-intervention. This was recorded as a yes or no answer; no calculation/statistics were used for this aim.

Aim Four: Increase the Percentage of Utilized Community Resources/Mental Health Aids for the School by 20% Within Three Months of MHFA Training

The percentage of utilized community resources/mental health aids rate were calculated as a percentage of community resources/mental health aids utilized at project completion and compared to baseline data (number of utilized community resources/mental health aids pre-intervention) for change.

Aim Five: Develop (and Ensure Ease of use Through Usability Testing) a Mental Health Toolkit (Website) Containing Evidence-Based Mental Health Aids, General Mental Health Resources and Community Resources/Connections for the Staff and Parents to Assist with Sustaining MHL

For the aim related to developing, and ensuring ease of use through usability testing, a mental health toolkit, the first step was to identify the elements to embed within the mental health toolkit. The most frequently occurring (median) needs, as identified by surveying the staff/parents (project participants), for the toolkit were analyzed for inclusion.

For the usability testing, the task completion rate and participant satisfaction with ease of use were analyzed in real-time during usability testing. The task completion rate was calculated as a percentage of all participants that successfully completed assigned tasks, and the participant satisfaction with ease of use rate was calculated as a percentage of all participants that find the toolkit easy to navigate/use, as directed by the concurrent think aloud, CTA, method (usability.gov, 2020).

Alignment of Aims and Outcome Measures

The measures for this project encompassed structure, process, outcome and balancing measures. Two structure measures were identified: a) Improving access to community resources and number of mental health resources for the school and b) assessing the community crucial needs to incorporate within the mental health toolkit. The process measure was targeted towards increasing the percentage of community MHFA training. The outcome measures were focused on increasing the mean MHL score of participants and developing a usable toolkit. Finally, the balancing measure worked to assess if the MHFA training and mental health toolkit enabled the establishment of a mental health champion at the school. The outcome measures aligned with the aims as they targeted employing MHFA training to increase MHL, developing a usable school-centered mental health toolkit (to increase access to resources, serve as a tool for the school-based mental health champion, as well as parents and teachers, and as a means of sustaining MHL) and integrating a mental health champion at the school.

Descriptive Statistics

The information (below) will outline the data (demographic and aims) collected and analyzed. The Data Collection/Evaluation and Analysis Methods (Appendix H) and Data Dictionary (Appendix I) are included as appendices in this document for reference.

Participant Demographics

Inclusion criteria: English speaking, male and female school community staff and parents of any ethnicity, who were between the ages of 18 and 65 years, had some supervisory role over children attending the school, and had no prior MHFA training.

Exclusion criteria: Non-English speaking, school community staff and parents less than 18 years old, staff without supervisory roles over children attending the school, and those who had previously undergone MHFA training.

Recruitment: A convenience sample was used to recruit participants. School staff were recruited on a voluntary basis through staff emails as well as with a formalized invitation from the Principal. Staff were not required to undergo training by leadership. School community parents were voluntarily recruited through flyers sent home with students and school emails.

The *n* (sample size) for this project was 15; participants consisted mainly of school staff (10), with a sample of parents (5). The most frequently occurring age group was 35-44 (66.7%), with the remainder consisting of: 18-24 (6.7%), 25-34 (13.3%), 45-54 (6.7%) and 55-64 (6.7%). The majority of the participants were female (80%), with 20% being male. 100% of the participants identified as Caucasian. Most participants held a Baccalaureate degree (53.3%), while the remainder (46.7%) held a Graduate degree. All of the participants identified as being medically insured. Appendix J depicts the sample demographics. The survey response rate was 100%.

Preliminary Analysis

Software Utilized

Both Excel and SPSS were used for this project. Three Excel spreadsheets were set-up for data collection/storage. Sheet one contained demographic data, MHLS pre and post scores, and participant identified needs for the toolkit. Sheet two contained raw school data needed for pre/post analysis, such as: Total number of staff, number of staff trained in MHFA pre-intervention, number of staff trained in MHFA post-intervention, number of community resources available, number of utilized community resources/mental health aids pre and post-

intervention, and data related to the establishment of a mental health champion three months post-project implementation. Sheet three contained data specific to the five participants who were involved in the toolkit usability testing: Task completion rate and satisfaction with ease of toolkit use.

The Excel data was then uploaded into Statistical Package for the Social Sciences (SPSS) Version 28 for data analysis. First, the average pre-MHLS and post-MHLS scores were calculated. Once this was complete a paired t-test, to assess the differences of MHL scores before and after the MHFA training, was performed (Laerd statistics, 2018). Assumptions one through four, required for use of the paired t-test, were met in this design: (a) Dependent variable measured at a continuous level (MHL scores were calculated to create a numeric value), (b) the independent variable consisted of two related (same subjects) groups, (c) no significant outliers, and (d) relative normal distribution of differences (Laerd statistics, 2018). SPSS was also used to analyze the mean and mode of the demographics (age, ethnicity, educational level, and medically insured or uninsured), median toolkit needs, pre/post raw school data percentage change rates and usability task completion/satisfaction rates.

Data Entry Accuracy

Accurate data entry was assured by the DNP project leader and with the help of technology. The participant MHLS and demographic data were collected by REDCap, an electronic database that participants use to respond to project surveys. This survey data was exported to Excel for data analysis purposes. The data in Excel was cross-checked against the data displayed in REDCap by the DNP project leader to ensure accuracy. There was no missing data to account for.

Findings and Outcomes

Aim One: Increase the Percentage of School Staff Trained in MHFA by 50% Within Three Months of Implementing MHFA Training

To evaluate aim one, the implementation of the intervention will increase the percentage of school staff trained in MHFA by 50% within three months of project initiation, data was analyzed by surveying the number of school staff members trained in MHFA pre-training and comparing it to the number of staff trained at the end of three months. Prior to the project implementation, no school faculty members had been trained in MHFA. This project increased the percentage of school staff trained in MHFA by 50%; 10/20 of the eligible school staff members participated and were certified in Youth MHFA as a result of the educational intervention (Appendix K). 82% of the school teachers participated, as well as the Principal.

Aim Two: Increase the Mean MHL Scores of Parents and Staff of the School by 50% Within Three Months of the Educational Intervention

To evaluate aim two, the implementation of the intervention will increase the mean MHL scores of parents and staff of the school by 50% within three months of the educational intervention, the MHLS was administered as a pre-test and post-test. The participant MHLS surveys were scored (and averaged) pre-MHFA training and again three months post-training, and then calculated for the percentage of change between pre/post average scores. Additionally, a paired t-test was performed to assess the differences in MHL scores before and after the training. The mean pre-MHLS score was 104.4. The mean post-MHLS score was 150. This indicated that the participant scores increased by 44% post-intervention. Appendix L depicts the pre/post MHLS data. A paired t-test indicated a statistically significant difference between pre/post MHLS scores, $p < 0.001$ (Appendix M). Although the aim of increasing participant

MHL by 50% was not met, the actual participant score change of 44% was statistically significant.

Aim Three: Establish a Mental Health Champion at the School Within Three Months of MHFA Training

To evaluate aim three, the implementation of the intervention will establish a mental health champion at the school within three months of MHFA training, data analysis was not necessary, as a direct interview with the school leadership assessed the presence (yes) or absence (no) of a mental health champion. An interview with the Principal three months post-project implementation revealed that a mental health champion had been established at the school.

Aim Four: Increase the Percentage of Utilized Community Resources/Mental Health Aids for the School by 20% Within Three Months of MHFA Training

To evaluate aim four, the implementation of the intervention will increase the percentage of utilized community resources/mental health aids for the school by 20% within three months of MHFA training, the percentage of resource change from pre-project implementation compared to post was measured. Pre-project implementation, data collection conveyed that the school utilized two community resources. Three months post implementation, the school utilized an additional two community resources, increasing the percentage of utilized community resources by 100%. In addition to this, pre-project implementation the school utilized one mental health/wellness aid/outlet (which serve to increase overall wellness and curb mental health problems). Three months post-implementation, the school added an additional three mental health/wellness aids, tripling (raising by 200%) the number of school wellness outlets available to students (see Appendix N).

Aim Five: Develop (and Ensure Ease of use Through Usability Testing) a Mental Health Toolkit (Website) Containing Evidence-Based Mental Health Aids, General Mental Health Resources and Community Resources/Connections for the Staff and Parents to Assist with Sustaining MHL

To evaluate aim five, the implementation of the intervention will enable the development (and ensure ease of use through usability testing) of a school-centered mental health toolkit (website) containing evidence-based mental health aids, general mental health resources and community resources/connections for the staff and parents to assist with sustaining MHL, data to analyze the needed components of the toolkit was collected by assessing the most frequently (median) identified needs after surveying participants. For the usability testing, the task completion rate and participant satisfaction with ease of use was analyzed in real-time during usability testing. The task completion rate was calculated as a percentage of all participants that successfully completed assigned tasks, and the participant satisfaction with ease of use rate was calculated as a percentage of all participants that found the toolkit easy to navigate/use.

Data analysis showed that the most frequently occurring needs of the toolkit were: Evidence-based resources, community resources, information on how to maintain mental health awareness, tools to respond, and access to credible local youth mental health data (Appendix O). The website was developed to reflect these needs. With the five participants who were involved in usability testing, 80% reported satisfaction with ease of use during the first testing. 20% of the usability participants asked that instructions on accessing the links (to the various sites) be explained on the website. The project leader made these adjustments as requested. Following this edit, 100% of the participants noted satisfaction with ease of use. All participants maintained a 100% task completion rate during the first round of usability testing (no adjustments or

additional rounds of testing were required). Appendix P provides a chart to summarize the usability testing results.

Summary of Key Findings

Deploying Youth MHFA as a school staff educational intervention led to a statistically significant improvement of MHL. Sustainability was ascertained with an evidence-based, school centered mental health toolkit, which led to an increase in the utilization of community resources/mental health aids and embedment of a school-based mental health champion.

Discussion

Impact

The impacts of this project were multidimensional. Not only did it improve the overall mental health awareness on campus and increase access and use of local and national resources, it also mobilized the school to maximize their use of internal resources to create and foster both mental health prevention strategies as well as additional support measures to assist students that may be struggling. Furthermore, it assisted the school with meeting new school re-accreditation standards.

Implications for Practice

The implication for practice is improved MHL which leads to earlier identification and treatment of mental health concerns in the school setting, thereby translating to prevention of poor mental health outcomes and reduced healthcare associated costs. Ultimately, this project assisted the community in meeting the Institute of Healthcare Improvements, IHI (2021) Triple Aim initiative: Improving the health of the population and experience of care and decreasing healthcare costs (through early identification and treatment).

Implications for Healthcare Policy

The implications for healthcare policy are support for the AAP's: (a) Call for heightened collaboration of educational settings and healthcare providers to uphold the health of children; and (b) policy encouraging the establishment of mental health champions within school settings.

Implications for Quality

This project fulfilled the Institute of Medicine's (IOM) six domains of health care quality: Safe, effective, patient-centered, timely, efficient and equitable (Agency for Healthcare Research and Quality, AHRQ, 2018). Safety was established by increasing the MHL of the community, thereby enhancing the chances of earlier identification and support of those in need. Effectiveness was enhanced by meeting the AAP's, CDC's and National Council for Behavioral Health's EBP recommendations to employ MHFA training within schools to enhance MHL and improve mental health outcomes. Patient-centeredness was met by engaging nationally accredited MHFA training that is respectful to patient needs. Timeliness was met by MHFA aiders being able to identify and refer those in need without harmful delays (attributed to not recognizing mental health issues). Efficiency was met through potentially reducing mental healthcare associated costs as a result of early identification and treatment for those in need. Equitable care was met by the educational intervention and toolkit being established in a primarily multi-cultural educational setting and not excluding potential first aiders due to ethnicity, gender and/or socioeconomic status; all school staff and parents had equal access to this training and toolkit.

Limitations

This project contained some limitations with respect to recruitment and sample size. Recruitment posed some challenges due to varying staff and parent schedules; identifying

universally desired training dates was difficult. Participants found it challenging to commit to the required 5.5 hours of in-person group training, especially on the weekend (when staff were available). This impacted participants' willingness to participate. As a result, the sample size was small. There were not enough participants to perform a power analysis and determine an effect size. This could affect the ability to generalize the findings. In the future, offering multiple training dates (perhaps quarterly) at the schools might increase overall participation. Despite these limitations, this pilot project did host some strengths. The evidence-based youth MHFA curriculum from the National Council made the training easy to implement and teach. Additionally, compared to the potential cost savings associated with early identification and treatment of mental health concerns, the cost of implementation was low.

Plans for Sustainability and Future Scholarship

Sustainability

According to Moran et al. (2019) project sustainability is best achieved by working with organizational decision makers prior to implementation to define what is needed to maintain change. For this project, the school leadership and Nurse Leader discussed and planned for sustainability from the start. The elements required to ascertain sustainability, and meet the short and long term organizational goals of maintaining mental health awareness on campus in an effort to improve community outcomes, were defined as: Embedding a user-friendly toolkit with access to resources, updating and maintaining the toolkit semi-annually and human resources (a mental health champion that can use the contents of the toolkit to continue mental health awareness at the school and tailor school-based mental health initiatives). As a result, a school-centered mental health toolkit (established, maintained and updated by the Nurse Leader) was developed and delivered, and a mental health champion was integrated into the facility.

Future Scholarship

For future scholarship, there are plans to disseminate these findings at nursing and academic related conferences/research days. In addition, in the future this mental health awareness education and sustainment program can be implemented in similar school settings. Often times public schools have access to state resources to improve their school based mental health initiatives/awareness, however, private institutions are not always privy to these benefits. The results of this project proved that translating this evidence-based research into practice and implementing a mental health education and sustainment program into vulnerable school settings, can fill knowledge gaps (improve MHL) and sustain awareness on campus. Implementing this project into comparable deficient school settings is likely to produce similar results and is the plan for future scholarship.

Summary

MHFA is an innovative approach to addressing the mental health crisis in the US. The literature synthesis represented strong, compelling evidence, consistent results: Solid indication for practice change was indicated; the vast majority of the evidence was level I or II and all evidence sustained A-B quality ratings. The JHNEBP model permits swift translation of the evidence into practice. This EBP initiative entailed training school staff and parents (who supervised the vulnerable populations) on youth MHFA and measuring the impact of the training on the participants' MHL through the MHLS. The training increased the community's mean MHL scores, which is anticipated to lead to the prevention of poor mental health outcomes and decreased healthcare costs. Furthermore, it aligned the school with the AAP's recommended school health policy and met the six domains of quality healthcare. Continued monitoring and sustainability of the project was facilitated through a mental health toolkit designed for school

staff/parents (updated and assessed for usability semi-annually) and by empowering a participating school staff member to assume the role as the mental health champion. The benefits of implementing MHFA training within struggling communities outweighed any potential risks. This mental health awareness initiative was proven effective and could be expanded across similar school settings.

Conclusion

The U.S. is facing a severe mental health crisis. COVID-19 has created substantial mental health repercussions and amplified the already existing crisis. In a grief and anxiety-stricken society, mobilizing lay people as mental health first aid responders serves as a powerful tool to curb the mental health crisis. Healthy People (2020) seeks to extinguish this costly and burdensome threat with early identification and intervention. Implementing MHFA practices within communities affords the opportunity to meet Healthy People (2020) initiatives as well as achieve the IHI's Triple Aim (2021) approach to optimize the community's health system. All research and non-research resources provide outcomes that speak towards the success of improving MHL as a result of MHFA. Local government officials may want to consider employing MHFA in communities experiencing significant mental health disparities as a mode of deterring from poor health outcomes. Physical first aid training has saved the lives of millions of Americans. MHFA has the capacity to replicate this and provide lifesaving mental health tactics.

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Appendices

Appendix A: Outcome Measures

Strengthen Community Connections

Measure	**Measure Type***	**Data Source**	**Sampling Method**	**Timing/Frequency**
Percentage of school utilized community resources/connections, mental health aids and wellness programs	Structure	1) Interview with Principal 2) Community outreach	1) School leadership to understand what is utilized. 2) Outreach to the community to understand what is available.	Administered once prior to project implementation and once more three months later.

Standard Measure?**	No
Numerator	Utilized mental health resources/connections and/or aids (access to counselors, kids exercise/youth programs, school wellness programs etc.)
Denominator or Population***	Total community resources available
Exclusions	Programs not congruent with increasing overall wellness and/or mental health professionals that only provide care to adults
Calculation/Statistic(s)	Percentage
Goal/Benchmark	Increase percentage of community resource utilization by 20% within 3 months.

Data Elements	**Variable Name**	**Definition**	**Data Type***	**Data Values & Coding**	**Restrictions/ Validation**
Counselors	Couns.	Counselors that offer services to school aged children.	Cont.	N/A	None
Outlets that increase overall wellness and curb mental health problems	MH/wellness aids	School (or school aged) wellness programs (internal or external) and/or counselors	Cont.	1) Internal school wellness programs. 2) External wellness programs. 3) School aged counselors	None

Identify the Elements to Embed within the Mental Health Toolkit

Measure	**Measure Type***	**Data Source**	**Sampling Method**	**Timing/Frequency**
Identify most prominent desires and needs from the community to embed within the mental health toolkit	Structure	Survey from all MHFA participants	All participants of MHFA training	Within 2 weeks of MHFA being administered.

Standard Measure?**	No
Numerator	Most frequently identified needs for mental health toolkit
Denominator or Population***	None – not calculated as a ratio
Exclusions	None
Calculation/Statistic(s)	Median
Goal/Benchmark	Develop mental health toolkit to include the most frequently occurring needs.

Data Elements	**Variable Name**	**Definition**	**Data Type***	**Data Values & Coding**	**Restrictions/ Validation**
Counselors to access	Couns.	Counselors that offer services to school aged children.	Cont.	N/A	None
MHFA Action Plan strategy	Action	Tool utilized in MHFA training that enables effective communication	Cont.	N/A	None
Mental health prevention/outlet strategies and resources	MHpreventstrat	Evidenced based lifestyle resources proven to both prevent and mitigate mental health concerns (ex: recreational programs, meditation, clubs, etc.)	Cont.	N/A	
Evidenced based articles	EBart	Evidence based mental health articles that aim to enhance mental health literacy	Cont.	N/A	None

Increase the Percentage of Staff Trained in MHFA

Measure	Measure Type*	Data Source	Sampling Method	Timing/Frequency
Percentage of staff trained with MHFA	Process	Interview with Principal	Principal	Measured pre-project implementation (during needs assessment) and at completion of project.
Standard Measure?**	*No*			
Numerator	# of staff trained with MHFA			
Denominator or Population***	ALL staff			
Exclusions	None			
Calculation/Statistic(s)	Percentage			
Goal/Benchmark	Increase staff trained in MHFA by 50%			

Data Elements	Variable Name	Definition	Data Type*	Data Values & Coding	Restrictions/ Validation
School staff	Staff	Staff that supervise children	Cont.	N/A	None

Increase the Mean MHL Score of Community Trained with MHFA

Measure	Measure Type*	Data Source	Sampling Method	Timing/Frequency
MHLS scores (scale adopted from O'Connor & Casey, 2015).	Outcome	MHLS scale scores	All participant MHLS surveys	MHLS will be administered once prior to MHFA training and then once 3 months post training.
Standard Measure?**	Yes – Improving or maintaining mental health https://cmit.cms.gov/CMIT_public/ViewMeasure?MeasureId=4051			
Numerator	Mean participant MHLS scores			
Denominator or Population***	None – not calculated as a ratio/proportion			
Exclusions	None			
Calculation/Statistic(s)	Mean			
Goal/Benchmark	Increase MHL mean score by 50% within 3 months (min score 35, max 160)			

Data Elements	Variable Name	Definition	Data Type*	Data Values & Coding	Restrictions/ Validation
Social phobia	Soc_phobia	If someone became extremely nervous or anxious in one or more situations with other people (e.g., a party) or performance situations (e.g., presenting at a meeting) in which they were afraid of being evaluated by others and that they would act in a way that was humiliating or feel embarrassed, then to what extent do you think it is likely they have Social Phobia	Categorical	1, very unlikely; 2, unlikely; 3, likely; 4, very likely	
GAD	GAD	If someone experienced excessive worry about a number of events or activities where this level of concern was not warranted, had difficulty controlling this worry and had physical symptoms such as having tense muscles and feeling fatigued then to what extent do you think it is likely they have Generalized Anxiety Disorder	Categorical	1, very unlikely; 2, unlikely; 3, likely; 4, very likely	

Major Depressive Disorder	Dep	If someone experienced a low mood for two or more weeks, had a loss of pleasure or interest in their normal activities and experienced changes in their appetite and sleep then to what extent do you think it is likely they have Major Depressive Disorder	Categorical	1, very unlikely; 2, unlikely; 3, likely; 4, very likely	
Personality disorders	Per_dis	To what extent do you think it is likely that Personality Disorders are a category of mental illness	Categorical	1, very unlikely; 2, unlikely; 3, likely; 4, very likely	
Dysthymia	Dys	To what extent do you think it is likely that Persistent Depressive Disorder (Dysthymia) is a disorder	Categorical	1, very unlikely; 2, unlikely; 3, likely; 4, very likely	
Agoraphobia	Agor	To what extent do you think it is likely that the diagnosis of Agoraphobia includes anxiety about situations where escape may be difficult or embarrassing	Categorical	1, very unlikely; 2, unlikely; 3, likely; 4, very likely	
Bipolar Disorder	Bip_dis	To what extent do you think it is likely that the diagnosis of Bipolar Disorder includes experiencing periods of elevated (i.e., high) and periods of depressed (i.e., low) mood	Categorical	1, very unlikely; 2, unlikely; 3, likely; 4, very likely	

Drug dependence	Drug_dep	To what extent do you think it is likely that the diagnosis of Substance Abuse Disorder includes physical and psychological tolerance of the drug (i.e., require more of the drug to get the same effect)	Categorical	1, very unlikely; 2, unlikely; 3, likely; 4, very likely	
Gender, mental illness	Gen_mi	To what extent do you think it is likely that in general in your county, women are MORE likely to experience a mental illness of any kind compared to men	Categorical	1, very unlikely; 2, unlikely; 3, likely; 4, very likely	
Gender, anxiety	Gen_anx	To what extent do you think it is likely that in general, in your county, men are MORE likely to experience an anxiety disorder compared to women	Categorical	4, very ulikely; 3, unlikely; 2, likely; 1, very likely	
Sleep	sleep	To what extent do you think it would be helpful for someone to improve their quality of sleep if they were having difficulties managing their emotions (e.g., becoming very anxious or depressed)	Categorical	1, very unhelpful; 2, unhelpful; 3, helpful; 4, very helpful	
Anxiety	anxiety	To what extent do you think it would be helpful for someone to avoid all activities or situations that made them feel anxious if	Categorical	4, very unhelpful; 3, unhelpful; 2, helpful; 1, very helpful	

		they were having difficulties managing their emotions			
Cognitive behavioral therapy	CBT	To what extent do you think it is likely that Cognitive Behavior Therapy (CBT) is a therapy based on challenging negative thoughts and increasing helpful behaviors	Categorical	1, very unhelpful; 2, unhelpful; 3, helpful; 4, very helpful	
Confidentiality	Confident.1	Mental health professionals are bound by confidentiality; however there are certain conditions under which this does not apply. To what extent do you think it is likely that the following is a condition that would allow a mental health professional to break confidentiality: If you are at immediate risk of harm to yourself or others	Categorical	1, very unhelpful; 2, unhelpful; 3, helpful; 4, very helpful	
Confidentiality	Confident.2	Mental health professionals are bound by confidentiality; however there are certain conditions under which this does not apply. To what extent do you	Categorical	4, very unlikely; 3, unlikely; 2, likely; 1, very likely	

		think it is likely that the following is a condition that would allow a mental health professional to break confidentiality: If your problem is not life-threatening and they want to assist others to better support you			
Confidence to find info	Seek_info	I am confident that I know where to seek information about mental illness	Categorical	1, strongly disagree; 2, disagree; 3, neither agree or disagree; 4, agree; 5 strongly agree	
Confidence with technology	Conf_tech	I am confident using the computer or telephone to seek information about mental illness	Categorical	1, strongly disagree; 2, disagree; 3, neither agree or disagree; 4, agree; 5 strongly agree	
Confidence with mental illness	Conf_MI	I am confident attending face to face appointments to seek information about mental illness (e.g., seeing the GP)	Categorical	1, strongly disagree; 2, disagree; 3, neither agree or disagree; 4, agree; 5 strongly agree	
Confidence with access to info.	Conf_access	I am confident I have access to resources (e.g., GP, internet, friends) that I can use to seek information about mental illness	Categorical	1, strongly disagree; 2, disagree; 3, neither agree or disagree; 4, agree; 5 strongly agree	
Snap out	Snap_out	People with a mental illness could snap out if it if they wanted	Categorical	5, strongly disagree; 4, disagree; 3, neither agree	

				or disagree; 2, agree; 1 strongly agree	
MH as weakness	MH_weak	A mental illness is a sign of personal weakness	Categorical	5, strongly disagree; 4, disagree; 3, neither agree or disagree; 2, agree; 1 strongly agree	
MH as not real	MH_real	A mental illness is not a real medical illness	Categorical	5, strongly disagree; 4, disagree; 3, neither agree or disagree; 2, agree; 1 strongly agree	
MH and danger	MH_dang	People with a mental illness are dangerous	Categorical	5, strongly disagree; 4, disagree; 3, neither agree or disagree; 2, agree; 1 strongly agree	
MH_avoidance	MH_avoid	It is best to avoid people with a mental illness so that you don't develop this problem	Categorical	5, strongly disagree; 4, disagree; 3, neither agree or disagree; 2, agree; 1 strongly agree	
MH_tell	MH_tell	If I had a mental illness I would not tell anyone	Categorical	5, strongly disagree; 4, disagree; 3, neither agree or disagree; 2, agree; 1 strongly agree	
MH strength	MH_strength	Seeing a mental health professional means you are not strong enough to manage your own difficulties	Categorical	5, strongly disagree; 4, disagree; 3, neither agree or disagree; 2, agree; 1 strongly agree	

MH help	MH_seekhelp	If I had a mental illness, I would not seek help from a mental health professional	Categorical	5, strongly disagree; 4, disagree; 3, neither agree or disagree; 2, agree; 1 strongly agree	
MH treatment	MH_treat	I believe treatment for a mental illness, provided by a mental health professional, would not be effective	Categorical	1, definitely unwilling; 2, probably unwilling; 3, neither unwilling or willing; 4, probably willing; 5, definitely willing	
Willing neighbor	Neighbor	How willing would you be to move next door to someone with a mental illness?	Categorical	1, definitely unwilling; 2, probably unwilling; 3, neither unwilling or willing; 4, probably willing; 5, definitely willing	
Socializing	Social	How willing would you be to spend an evening socializing with someone with a mental illness?	Categorical	1, definitely unwilling; 2, probably unwilling; 3, neither unwilling or willing; 4, probably willing; 5, definitely willing	
Friends	Friends	How willing would you be to make friends with someone with a mental illness?	Categorical	1, definitely unwilling; 2, probably unwilling; 3, neither unwilling or	

				willing; 4, probably willing; 5, definitely willing	
Job	Job	How willing would you be to have someone with a mental illness start working closely with you on a job?	Categorical	1, definitely unwilling; 2, probably unwilling; 3, neither unwilling or willing; 4, probably willing; 5, definitely willing	
Marry	Marry	How willing would you be to have someone with a mental illness marry into your family?	Categorical	1, definitely unwilling; 2, probably unwilling; 3, neither unwilling or willing; 4, probably willing; 5, definitely willing	
Vote	Vote	How willing would you be to vote for a politician if you knew they had suffered a mental illness?	Categorical	1, definitely unwilling; 2, probably unwilling; 3, neither unwilling or willing; 4, probably willing; 5, definitely willing	
Employ	Employ	How willing would you be to employ someone if you knew they had a mental illness?	Categorical	1, definitely unwilling; 2, probably unwilling; 3, neither unwilling or willing; 4, probably	

				willing; 5, definitely willing	

Establishment of a School Mental Health Champion Post MHFA Training

Measure	**Measure Type***	**Data Source**	**Sampling Method**	**Timing/Frequency**
Establishment of a mental health champion post MHFA training	Balancing	Interview leadership (Principal)	Principal	Administered once, 3 months post MHFA training.

Standard Measure?**	No
Numerator	None
Denominator or Population***	None
Exclusions	None
Calculation/Statistic(s)	None
Goal/Benchmark	Direct interview with leadership acknowledges establishment of a mental health champion at the school.

Data Elements	**Variable Name**	**Definition**	**Data Type***	**Data Values & Coding**	**Restrictions/ Validation**
Role	School_role	What is your role within the school?	Categorical	1) Principal	Required
Establishment	MHchamp_estab	A mental health champion team has been established at the school.	Categorical	1) Yes 2) No	None

Appendix B: Evidence Table

Art #	Author & Date	Evidence Type	Sample, sample size, setting	Study findings that help answer the EBP Question	Observable Measures	Limitations	Evidence Level & Quality
1	Jorm et al. (2010).	RCT	14 high schools in South Australia paired to be alike in socioeconomic characteristic (all schools were in the Catholic, independent or government systems in South Australia). Schools were clustered (all received either wait-listing for training, or were given the actual YMHFA training).	Training in mental health for non-specialists increased knowledge, attitude, skills and confidence.	Participants in the treatment group (youth mental health first aid, YMHFA) group had greater gains in MHL (knowledge mean difference = 2.08, $p < 0.001$) as well as increased confidence in providing care. Outcomes were measured by (a) vignettes (recognition of depression and intentions, confidence to provide help, first aid provided to colleagues and school policies and practices), as well as (b) administering 21 questions	Due to schools having to schedule staff training, schools were informed of intervention versus wait-list allocation groups prior to teachers completing pre-MHFA training questionnaire. Blinding of teachers was not possible. 4 Vignettes utilized to measure mental health knowledge; study did not indicate if these specific vignettes had been validated, but noted that they had been consistently used across many similar research studies. Yet, research has shown that vignette	Level of Evidence: I Quality: A

			All teachers taught ages 12-15. 221 teachers in MHFA group (treatment group) and 106 in waitlist group (told they would receive MHFA training at a later time). Study completed during the entirety of the 2008 school year. Schools were randomized to either do training in terms 1-2 of 2008 or assigned to the waitlist group that would do the training in terms 3-4.		assessing knowledge/information taught (crafted by instructors – no scale name assigned to questions). Participants answered questions with either agree, disagree or unsure (score = number of correctly answered questions). Additionally: (a) teachers completed the K6 Psychological Distress Scale (to screen for mood or anxiety disorders) and (b) students completed the Strengths and Difficulties Questionnaire (25 item validated questionnaire inquiring how life has been over the past 6 months (checks for conduct	interviews are valid and reliable tools (Evans et al., 2015).	

			YMHFA course transpired over 2 days. Additional time needed from participants to complete a questionnaire pre and post YMHFA training and 6 months following training. Sample size estimated via power analysis. Schools randomly assigned with random integers (allocation based on clusters/schools versus teachers; everyone at the same school		problems, emotional problems, inattention, prosocial behavior and peer relationships). Students associated with teachers trained in YMHFA reported they had received information pertaining to mental health/received mental health assistance over the past 6 months. Data collection and analysis: Dichotomous and continuous data collection conducted through mixed-effect models. Mean differences studied. All data analysis conducted using Stata Release 10.		

			was getting the same training at the same time (either YMHFA or wait-listing). Ethical approval provided from Youth and Women's Health Service Research Ethics Committee at the Women's and Children's Hospital in Australia.		Recognition of depression at pretest high – no notable difference at post-test. Effects sustained at 6 month follow up. Teachers noted to be a greater source of mental health information for students. Study highlights the need to provide MHFA to teachers AND parents (studies have shown that kids are more likely to seek help from a parent versus a teacher – only 25% of kids in this study were willing to seek care from a teacher).		
2	Morawska et al., (2013)	Quasi-Exp.	Total of 458 participants in multicultural organizations	MHFA training improved confidence	Six month follow up results: interview inquiring about confidence in	Extent of work in settings unknown (the level of involvement	Level of Evidence: II Quality: B

			in Australia (Brisbane south division) trained in MHFA. Participants recruited from 500 different community organizations and groups that work with multicultural communities. 43.3% of participants attended youth mental health first aid training (YMHFA), as they primarily engaged with this population in their work setting. 60% of the participants worked in healthcare,	and ability to refer patients for additional care as needed. MHFA training is effective at increasing MHL across diverse (multi-cultural) settings.	addressing mental health problems (measures MHL). Thematic analysis utilized to analyze qualitative responses (NViov8 software used to conduct data analysis). Measurements made with (a) vignettes (assessing knowledge on depression and schizophrenia; both vignettes have been consistently used and evaluated in MHFA training programs), (b) Kessler Psychological Distress Scale (K-10) scale (measured psychological distress within participants in the last month; noted for strong consistency) and the (c) Social distance scale and	participants had with youth is unknown). Vignettes used were noted as being consistently used across many studies in MHFA evaluations, however, there was no specific mention of validation of these vignettes. Yet, research has shown that vignette interviews are valid and reliable tools (Evans et al., 2015).	

			23.6% were educators and 18.4% were mental health consumers. 10% of participants were of Aboriginal and/or Torres Strait Islander background; 19.9% were bilingual (this provided the multi-cultural component). Study took place over 6 months (two day MHFA course followed by a 6 month follow up telephone interview). Ethical clearance for study obtained from		Personal and Perceived Stigma Scale (measured stigmatizing attitudes in participants. For the social distance scale, answers rated on a 4-point likert scale measuring willingness to move next door to an individual with a mental illness, ranging from (1) definitely willing to (4) definitely unwilling. For the Personal and Perceived Stigma scale, a 5-point likert scale assessing questions such as whether individuals can "snap out of" mental illnesses, (1) strongly agree to (5) strongly disagree) was used. Follow-up interview 6 months		

			University of Queensland and the National Health and Medical Research Council (Australia).		after training also surveyed whether they've had contact with an individual struggling with a mental disorder, whether they provided help if they did, and if they were confident in doing so). For the vignettes, participants were asked to rate whether specific interventions (often provided by primary care providers, such as specific treatments or providing referrals), would be helpful, harmful or neither, to individuals suffering from mental illnesses. This aided the researchers in determining helpfulness of MHFA.		

					Most (84%) able to offer help via offering a referral or support; 89.5% confident in making the referral. The following themes emerged as being barriers to delivering help: person barriers, helper barriers and environmental barriers. Increased mental health awareness and confidence to identify/support = themes MHFA important in diverse settings. Lends to flexibility and universal implementation of program. Stigma significantly decreased from pre to post test ($p <$ 0.001)		

					Healthcare providers MHL matched non-health care providers; MHFA training necessary in healthcare provider population also.		
3	Morgan et al. (2019)	RCT	170 parents and 159 adolescents in MHFA training group in Australia. One parent and one adolescent allowed to participate as a dyad. Participants recruited from secondary schools in Australia (exact location in Australia not revealed). 152 parents and 142 adolescents in	MHFA training has literacy advantages (improved knowledge, confidence and intention to provide support) compared to comparable programs. MHFA improves mental health outcomes of adolescents.	For MHFA group: Compared to PFA training, those with MHFA had enhanced parental mental health knowledge at 1 year (d=0.43) and 2 year (d=0.26) follow ups, improvement in confidence to help, (d = 0.26) and intentions to provide support (d=0.22). Measurements made with participant questionnaire responses to 4 different vignettes describing adolescents with	Attrition was high due to long term follow up. 4 Vignettes utilized to measure mental health knowledge; study did not indicate if vignettes had been validated, but noted that they had been consistently used amongst other similar research studies. Yet, research has shown that vignette interviews are valid and reliable tools (Evans et al., 2015).	Level of Evidence: I Quality: B

			Provide First Aid group (comparison) in Australia. Randomization conducted through random integer generator (1 = YMHFA, 2 = PFA); randomization occurred directly after parents chose training dates. YMHFA training conducted over 4 x 3.5 hour sessions (2 days), PFA conducted over 2 sessions (15 hours total). Study conducted over 2 years (baseline data collected, 1		psychosis, depression, eating disorder and social phobia. Participants answered questionnaires with 4-point likert scales (with a range of responses from (1) yes definitely, (2) yes probably, (3) probably not and (4) definitely not, to (1) very confident, (2) fairly confident, (3) slightly confident and (4) not confident at all, to (1) almost never or never true, (2) sometimes true, (3) often true, and (4) almost always true), or 5-point likert scales (with a range of responses from (1) strongly disagree, (2) disagree, (3) neither agree or disagree, (4) agree and (5) strongly agree to (1) none of the		

			and 2 year follow ups conducted via telephone interview). Study approved by the Human Research Ethics Committee at the University of Melbourne.		time, (2) all the time, (3) some of the time, (4) most of the time and (5) all of the time). 18 knowledge questions pertaining to youth mental health problems were taken from the YMHFA manual to assess mental health knowledge; participants asked to answer "agree, disagree or don't know." 1 point assigned for each correct answer. Adolescent mental health was also measured (with the 25-item Strengths and Difficulties Questionnaire, SDQ, parent and child versions). Excellent internal consistency. In the MHFA group, rates of child-rated		

					mental health disorders decreased by 50% at the 2 year follow up (compared to baseline). Comparatively, the rate of child-rated disorders remained consistent in the PFA group. Additionally, parent SDQ reports indicated that parents report of adolescents having a mental health problem decreased from 18-13% (from baseline) at the 1 year follow-up. Perceptions and quality of parent support were also measured with general interview questions (no specific tool). Data analysis performed with mixed-effects		

					models for binary and continuous outcome variables. Cohen's d used to measure effect sizes. Analysis conducted in RStudio and Stata 15.		
4	Morgan et al. (2020)	RCT	119 Australian parents and 119 adolescents assigned to MHFA intervention group at start of study. One parent and one adolescent allowed to participate as a dyad. Participants recruited from secondary schools in Australia (exact location in Australia not revealed).	MHFA improves adolescent mental health outcomes; longevity of effects of training can last up to 3 years.	Noteworthy improvement in parental MHL in MHFA treatment group (d = 0 .31). Measurements made with 4 different vignettes describing adolescents with psychosis, depression, eating disorder and social phobia. Participants answered questionnaires about vignettes with 4-point likert scales (with a range of responses from (1) yes definitely,	Attrition (however, parents less likely to drop out if they held a tertiary degree). Blinding of parents to form of training course was not feasible (however telephone interviews were blinded). 4 Vignettes utilized to measure mental health knowledge; study did not indicate if vignettes had been validated, but noted that they had been consistently used amongst other similar research studies. Yet, research has shown	Level of evidence: I Quality: B

			90 parents and 90 adolescents assigned to Provide First Aid course at start of study. Randomization conducted through random integer generator (1 = YMHFA, 2 = PFA); randomization occurred directly after parents chose training dates. YMHFA training conducted over 4 x 3.5 hour sessions (2 days), PFA conducted over 2 sessions (15 hours total). Study conducted over		(2) yes probably, (3) probably not and (4) definitely not to (1) very confident, (2) fairly confident, (3) slightly confident and (4) not confident at all, to (1) almost never or never true, (2) sometimes true, (3) often true, and (4) almost always true), or 5-point likert scales (with a range of responses from (1) strongly disagree, (2) disagree, (3) neither agree or disagree, (4) agree and (5) strongly agree to (1) none of the time, (2) all the time, (3) some of the time, (4) most of the time and (5) all of the time). 18 knowledge questions pertaining to youth mental	that vignette interviews are valid and reliable tools (Evans et al., 2015).	

			3 years (baseline data collected, 1, 2 and 3 year follow ups conducted via telephone interview). Study approved by the Human Research Ethics Committee at the University of Melbourne.		health problems were taken from the YMHFA manual to assess mental health knowledge. Participants responded with agree, disagree or don't know (1 point for each correct response). Question example: "If a teenager has a traumatic experience, it is best to make them talk about it as soon as possible." Adolescent mental health was also measured (with the 25-item Strengths and Difficulties Questionnaire, SDQ, parent and child versions). Excellent internal consistency. In the MHFA group, there was a smaller number of parents that reported		

					adolescents with mental health problems at the 3 year follow up compared to the PFA group (drop from 18-7% over 3 years). Comparatively, the rate of child-rated disorders in the PFA group only dropped by approximately 3%. Perceptions and quality of parent support were also measured with general interview questions (no specific tool). Data analysis performed with mixed-effects models for binary and continuous outcome variables. Cohen's d used to measure effect sizes. Analysis conducted in		

					RStudio and Stata 15. Enhanced parental mental health knowledge at years 1 and 2, and small to medium effect improvement in MHL outcomes (such as quality of intentions, confidence and quality of support) at year 3.		
5	Pierce et al. (2010)	Quasi-Exp.	36 football club leaders in rural Australia underwent training with the Coach the Coach project. N = 275 players from 11 different football clubs participated in questionnaire pre/post study evaluating ability to identify	Training extended members of a child or youth's life (such as coaches, or anyone directly involved with them), with mental health knowledge has the ability to improve identification of mental illnesses.	Coaches MHL increased (ability to recognize depression and schizophrenia) – 100% of coaches able to correctly identify/ID depression 6 months post training (compared to 44% initially) and 78% able to ID schizophrenia compared to 23% initially. Knowledge measurements were	Performed in a rural area, unknown if this would translate to a larger setting. High attrition rate of players; perhaps carry out over 1 season next time.	Level of evidence: II Quality: A

			depression, and attitudes towards depression and treatment options. Median age – 21. Players located 250km away (who did not have any knowledge of MHFA training, etc.) were recruited to complete the post-training questionnaire delivered to the youth whose coaches were involved in training. This served as a control. Coaches underwent MHFA training over 3 weeks (12		made by collecting questionnaires with answers to vignettes (depicting depression and schizophrenia). Authors noted that they used the same vignettes as standardly used in other MHFA research studies for consistency. Additional interviews were conducted with coaches to obtain information on the experience of their training and its impact in the club; coaches reported training helped them feel empowered to help, build on existing knowledge and apply first aid skills. Negligible change in player attitudes		

			hours total). Study lasted for a total of 6 months; baseline data collected and then focus group interviews were completed 6 months post training). This provided pre-post data. Total study length 6 months. Ethical approval for study obtained from University of Melbourne.		towards mental health. Comparative data analysis conducted with a Wilcoxon signed rank test and associations tested with a Chi-square test. Statistical significance marked at $p < 0.05$.		
6	Gryglewicz et al. (2018)	Quasi-experimental	Five tier I public schools (within the same school district) in the Southeastern United States.	YMHFA training is vital for those without any MHFA training, as well as when dealing with vulnerable	First aiders revealed statistically significant ($p < 0.001$) improvements in MHL, confidence and intention to provide MHFA and	Low variance (0.5-0.11), showing the need to identify additional factors that could influence training.	Level of evidence: II Quality: A

			One K-8, three elementary, one middle and one high school. All school staff participated in Youth Mental Health First Aid (YMHFA) training, for a total sample size of 356 school staff (81% were teachers). 56% of the sample had never received any training in mental health. Study completed over 2 days. YMHFA delivered over 8 hours (1-2 days) and surveys were collected pre	populations (which increasingly exist within schools now due to consequences of the pandemic). MHFA training provides equitable results in the presence of varying demographics : MHL increased even in the midst of a low socio-economic environment.	negative attitudes, after YMHFA training. MHL was measured through an 8-item measure adopted from the Crisis Intervention Team (CIT) training curriculum, proven effective in evaluating MHFA training. Theory of Planned Behavior, TPB, constructs (strong correlation to behavioral engagement and intentions) adapted from suicide prevention studies were utilized to assess confidence and intentions to provide support. 17% enhancement of MHL from pre to posttest. Attitudes of those working with struggling youth improved by 11%.	No control group (used pre and post test scores). No follow up with participants; posttest given immediately following training.	

			training and immediately after course completion. IRB approval obtained.		39% increase in confidence in ability to respond and identify mental health needs. Data analysis: pre and post test scores compared via paired-sample *t* tests. ANOVA used to analyze differences in the effectiveness of YMHFA across educational background, work characteristics and demographics.		
7	Haggerty et al. (2019)	Quasi-experimental	205 participants in three Michigan counties engaged in a project aimed at Advancing Wellness and Resilience in Education (project AWARE)	YMHFA training can increase MHL of non-mental health workforce participants to levels equivalent to the mental health workforce.	Non-mental health workers displayed statistically significant improvements ($p <$ 0.001) in MHL and confidence to help from pre to post-test training. These scores put their MHL on par with the mental health	Geographically limited to the counties within Michigan. Participants taken on a volunteer basis; this could affect generalizability of results.	Level of evidence: II Quality: B

			between Fall 2016 and Spring 2017, by participating in YMHFA training. 77% of participants were Caucasian, 12% African American, 3% were Hispanic/Latino, 2% were another race (not identified). 21% of the participants were involved in the mental health workforce (counselor, social worker, psychologist, case manager, clinician, health	YMHFA training is a valuable tool to integrate within schools, especially in the presence of schools that do not have any formal mental health training, guidance counselors and/or little mental health resources.	workforce. MHL measurements were made with Betty Kitchener's (individual who developed MHFA) Opinions Quiz, which was designed to measure first aiders MHL. To test validity of this tool, Mplus version 8 was employed to run factor analysis for each item measuring MHL. Results showed each item retained consistent construct. MHL was measured again at 3 months (participants were sent a survey via email) and showed that the effects of training lasted at least 3 months post training.		

			department employees, etc.). 79% of the participants were not part of the mental health workforce. 55% of this subset were teachers and school administrative staff. Study transpired over 3 months. Measurements made pre and post training with surveys (both immediately following training and 3 months). IRB determined project to meet		Data analysis: 2x3 factorial design used; two-way repeated measures ANOVA analysis (to measure differences between groups) employed.		

			criteria for exemption.				
8	Morgan et al. (2018)	Systematic review of RCTs or control-led trials	Review of databases (PubMed, EMBASE, Cochrane and PsychInfo) as well as the MHFA website, to identify RCTs of MHFA. MeSH words: 'mental health,''first aid,' 'controlled trial,' 'mental health first aid,' 'MHFA,' 'mental health training.' Inclusion criteria: Adults and assessed for outcomes in recognition of mental	Strong evidence that MHFA training enhances MHL, with effects lasting up to 12 months post training.	MHFA training conveys enhanced mental health knowledge (ds 0.31-0.72), beliefs regarding effective treatment (ds 0.19-0.45), recognition of mental disorders (ds 0.22-0.52), intentions to provide first aid (ds 0.26-0.75) and confidence to help (ds 0.21-0.58). Stigmatizing attitudes were found to have small, significant improvements (d = 0.14) immediately post intervention and 6 months following. Mental health knowledge was measured through	For variables outside of MHFA knowledge changes (such as confidence, recognition, beliefs, stigma, etc.), the quality of the evidence was moderate as a result of no blinding. Some analyses only had a small number of studies (may have impacted pooled estimate precision).	Level of evidence: I Quality: A

			disorders, MHFA knowledge, provision of MHFA, treatment knowledge, intention or confidence to provide MHFA, stigma and social distance. 18 trials (5936 participants) utilized in the review. Study lengths of up to 12 months.		vignettes; stigmatizing attitudes through validated tools (social distance scales personal stigma scales, attitudes to mental illness scale, personal attributes scale and the opening minds scale for healthcare providers); confidence and intentions to provide first aid assessed through "proxy measures of behavior change" and vignettes; provision of MHFA measured through survey questions that assessed the amount and quality of first aid provided. Data synthesis: Comprehensive Meta-Analysis (CMA) V2		

					software, conveyed data as mean differences; statistical heterogeneity (of each pooled outcome) studied with I^2 statistic (shows variances in effect sizes in percentages).		
9	O'Connor & Casey (2015)	Quasi-experimental	Description of the mental health literacy scale (MHLS) used to assess all components of MHL. Community sample used for psychometric testing: 94 male and 278 female, first year university students in Australia. An additional 37 female and 6 male mental health	Scale permits for easy and efficient evaluation of population and individual MHL. Can be effectively used to evaluate MHFA programs. The MHLS is an easily administered and scored, univariate, 35-item scale. Good test-retest and	Scale consists of the following attributes: (a) Recognition of disorders, (b) knowledge of how to seek mental health information, (c) knowledge of risk factors and causes, (d) knowledge of self-treatments, (e) knowledge of professional help available, (f) attributes that promote recognition and appropriate help-seeking.	Community sample used in psychometric testing were first year college students (this could have inflated baseline MHL scores). However, despite this, there was still dramatic MHL score variability found during testing (which highlighted how accurately this scale can detect differences).	Level of evidence: II Quality: A

			professionals also recruited via professional networks for comparison (control group). Ethical clearance obtained from Griffith University Ethics Committee. Blinding completed by giving each participant a unique code known only to them (needed to measure test-retest reliability).	internal reliability. Good validity.	Data analysis Tested over three phases: measurement development, pilot testing and method and psychometric testing. Community sample utilized to produce MHLS descriptives. Mean MHLS score 127.38, normal distribution of the scale (*Kurtosis* -0.231 and *Skewness* -115). Readability grade level 7.6 (obtained by using the Flesch-Kincaid formula). No missing responses from community sample. t-tests done to evaluate differences amongst groups expected to have differences in their MHL (ex: mental health professionals and community		

					sample). Mental health professionals had much greater MHLS scores than the community sample ($p < 0.001$), as expected. Consensus based standards for the selection of health instruments (COSMIN) used to evaluate the methodological quality of the MHLS. 6/9 needed domains (reliability, internal consistency, content validity, measurement error, structural validity, and hypothesis testing) adequately assessed.		
10	National Council for Behavioral Health (2021)	Nationally recognized expert opinion	Survey of the expert opinion on the National Council for Behavioral Health website.	MHFA improves mental health knowledge, enhances overall MHL, increases	National site includes information on: Impact of MHFA on communities, evidence and research, legislation	Site does not clearly indicate level of evidence for its recommendations; individuals are referred to a document with a	Level of evidence: IV Quality: A

			Stakeholders: MHFA is run jointly by the National Council of Behavioral Health and Missouri Department of Health. Program was initially started by Betty Kitchener (nurse focused on health education) and Anthony Jorm (mental health literacy professor).	services provided to individuals struggling and saves lives.	and mental health resources. "MHFA empowers teachers and staff to be proactive about their student's mental health by teaching them to how to spot signs of mental illness, giving them the appropriate tools to effectively intervene" and increasing their mental health literacy (MHL).	research summary, including multiple RCTs.	
11	CDC (2021)	Nationally recognized expert opinion	CDC reviewed a K-12 school based study to learn how many students were suffering from mental illnesses and create a consensus on	The CDC (2021) came to the consensus that "screening, identifying, and referring kids and adolescents to effective treatment can	1 in 6 school aged children have mental health disorders. Anxiety is the most prevalent mental health disorder within K-8 school aged children.	Consensus rooted from survey done in four states and four school districts; generalizability of results across the U.S. is unknown.	Level of evidence: IV Quality: A

			mental health in schools. Teachers and parents completed validated screening questionnaires to outline mental health symptoms present in students. Teachers/students/parents spread across four U.S. states (Ohio, Colorado, South Carolina and Florida), within rural, urban and suburban neighborhoods, and consisting of varying ethnic, racial and socio-economic	help prevent or decrease the negative effects of mental disorders." Communities and schools should work hand in hand to promote mental health in schools; implementing MHFA training extends this community capability.	Per parent questionnaires, prevalence of student mental health conditions was equitable across demographics (race, socio-economics, etc.).		

			backgrounds were surveyed.				
12	American Academy of Pediatrics, AAP, (2016).	Nationally recognized expert opinion	The AAP reviewed the importance of addressing mental health in school settings (policy statement).	Bolstering collaboration between educational organizations and primary care providers can serve as one of the most vital modes of upholding the health of adolescents and children and preventing harm. Implementing MHFA training within a school setting equips schools to serve as strong partners in healthcare.	A vast array of school based interventions have been studied and found effective, to include crisis response services and behavioral observation. Schools have implemented activities to promote mental health competencies.	Outlines the organization's belief(s) on a national scale, does not adjust for local conditions.	Level of evidence: IV Quality: A

Appendix C: Informed Consent

THE GEORGE WASHINGTON UNIVERSITY
WASHINGTON, DC

Study Assigned Consent Version #/Date: **GW OHR Document Revision Date: 04Jan2019**

Informed Consent for Participation in a Doctoral Project

Title of Project: Mental Health First Aid: Implementing an Evidence-Based Practice Change Initiative in a School Setting
Principal Investigator Name: Kate Wachutka MSN, APRN, FNP-C
Version Date: 03/18/21

You are invited to participate in a doctoral project under the direction of Kate Wachutka MSN, APRN, FNP-C, of the Department of Nursing, George Washington University (GWU). Taking part in this project is entirely voluntary. Further information regarding this project may be obtained by contacting Kate Wachutka (doctoral candidate).

The purpose of this project is to implement an evidence based mental health awareness education program (Mental Health First Aid, MHFA) within a school setting to staff and parents supervising children and adolescents to optimize the adults' mental health literacy.

What are the reasons you might choose to volunteer for this study? To expand mental health knowledge and gain the tools necessary in order to recognize and respond to those struggling with mental health problems.

What are the reasons you might not choose to volunteer for this study? Psychological stress from the content of the material discussed (mental health problems/conditions).

If you choose to take part in this project, you will complete a 7.5-hour youth MHFA class and complete two-surveys assessing mental health knowledge (before and after the training). The total amount of time you will spend in connection with this study is approximately 10 hours. You may refuse to answer any of the questions and you may stop your participation in this project at any time.

Possible risks or discomforts you could experience during this study include: Psychological stress from the content of the material (discussing mental health). To alleviate this potential stress, participants will be allowed to take breaks from the class as needed and/or not participate in any sections that elicit discomfort.

You will benefit by this project by increasing your mental health knowledge. The benefits to science and humankind that might result from this project are: Understanding how MHFA training can increase mental health knowledge in non-medical providers.

THE GEORGE WASHINGTON UNIVERSITY
WASHINGTON, DC

Study Assigned Consent Version #/Date: **GW OHR Document Revision Date: 04Jan2019**

Every effort will be made to keep your information confidential, however, this can not be guaranteed. All efforts to protect identify will be made by making surveys anonymous. If results of this project are reported in journals or at scientific meetings, the people who participated in this project will not be named or identified.

The Office of Human Research of George Washington University, at telephone number (202) 994-2715, can provide further information about your rights as a research participant.

To ensure anonymity your signature is not required, unless you prefer to sign it.

Your willingness to participate in this project is implied if you proceed.
*Please keep a copy of this document in case you want to read it again.

Appendix D: MHLS

Mental Health Literacy Scale

The purpose of these questions is to gain an understanding of your knowledge of various aspects to do with mental health. When responding, we are interested in your degree of knowledge. Therefore when choosing your response, consider that:

Very unlikely = I am certain that it is NOT likely

Unlikely = I think it is unlikely but am not certain

Likely = I think it is likely but am not certain

Very Likely = I am certain that it IS very likely

1
If someone became extremely nervous or anxious in one or more situations with other people (e.g., a party) or performance situations (e.g., presenting at a meeting) in which they were afraid of being evaluated by others and that they would act in a way that was humiliating or feel embarrassed, then to what extent do you think it is likely they have **Social Phobia**

Very unlikely Unlikely Likely Very Likely

2
If someone experienced excessive worry about a number of events or activities where this level of concern was not warranted, had difficulty controlling this worry and had physical symptoms such as having tense muscles and feeling fatigued then to what extent do you think it is likely they have **Generalised Anxiety Disorder**

Very unlikely Unlikely Likely Very Likely

3
If someone experienced a low mood for two or more weeks, had a loss of pleasure or interest in their normal activities and experienced changes in their appetite and sleep then to what extent do you think it is likely they have **Major Depressive Disorder**

Very unlikely Unlikely Likely Very Likely

4
To what extent do you think it is likely that **Personality Disorders** are a category of mental illness

Very unlikely Unlikely Likely Very Likely

5
To what extent do you think it is likely that **Dysthymia** is a disorder

Very unlikely Unlikely Likely Very Likely

6
To what extent do you think it is likely that the diagnosis of **Agoraphobia** includes anxiety about situations where escape may be difficult or embarrassing

Very unlikely Unlikely Likely Very Likely

7
To what extent do you think it is likely that the diagnosis of **Bipolar Disorder** includes experiencing periods of elevated (i.e., high) and periods of depressed (i.e., low) mood

Very unlikely Unlikely Likely Very Likely

8
To what extent do you think it is likely that the diagnosis of **Drug Dependence** includes physical and psychological tolerance of the drug (i.e., require more of the drug to get the same effect)

Very unlikely Unlikely Likely Very Likely

9
To what extent do you think it is likely that in general in Australia, **women are MORE likely to experience a mental illness of any kind compared to men**

Very unlikely Unlikely Likely Very Likely

10
To what extent do you think it is likely that in general, in Australia, **men are MORE likely to experience an anxiety disorder compared to women**

Very unlikely Unlikely Likely Very Likely

When choosing your response, consider that:

- Very Unhelpful = I am certain that it is NOT helpful
- Unhelpful = I think it is unhelpful but am not certain
- Helpful = I think it is helpful but am not certain
- Very Helpful = I am certain that it IS very helpful

11
To what extent do you think it would be helpful for someone to **improve their quality of sleep** if they were having difficulties managing their emotions (e.g., becoming very anxious or depressed)

Very unhelpful Unhelpful Helpful Very helpful

12
To what extent do you think it would be helpful for someone to **avoid all activities or situations that made them feel anxious** if they were having difficulties managing their emotions

Very unhelpful Unhelpful Helpful Very helpful

When choosing your response, consider that:

- Very unlikely = I am certain that it is NOT likely
- Unlikely = I think it is unlikely but am not certain
- Likely = I think it is likely but am not certain
- Very Likely = I am certain that it IS very likely

13
To what extent do you think it is likely that **Cognitive Behaviour Therapy (CBT)** is a therapy based on challenging negative thoughts and increasing helpful behaviours

Very unlikely Unlikely Likely Very Likely

14
Mental health professionals are bound by confidentiality; however there are certain conditions under which this does not apply.

To what extent do you think it is likely that the following is a condition that would allow a mental health professional to **break confidentiality**:

If you are at immediate risk of harm to yourself or others

Very unlikely Unlikely Likely Very Likely

15
Mental health professionals are bound by confidentiality; however there are certain conditions under which this does not apply.

To what extent do you think it is likely that the following is a condition that would allow a mental health professional to **break confidentiality**:

if your problem is not life-threatening and they want to assist others to better support you

Very unlikely Unlikely Likely Very Likely

Please indicate to what extent you agree with the following statements:

	Strongly Disagree	Disagree	Neither agree or disagree	Agree	Strongly agree
16. I am confident that I know where to seek information about mental illness					
17. I am confident using the computer or telephone to seek information about mental illness					
18. I am confident attending face to face appointments to seek information about mental illness (e.g., seeing the GP)					
19. I am confident I have access to resources (e.g., GP, internet, friends) that I can use to seek information about mental illness					

Please indicate to what extent you agree with the following statements:

	Strongly Disagree	Disagree	Neither agree or disagree	Agree	Strongly agree
20. People with a mental illness could snap out if it if they wanted					
21. A mental illness is a sign of personal weakness					
22. A mental illness is not a real medical illness					
23. People with a mental illness are dangerous					
24. It is best to avoid people with a mental illness so that you don't develop this problem					
25. If I had a mental illness I would not tell anyone					
26. Seeing a mental health professional means you are not strong enough to manage your own difficulties					
27. If I had a mental illness, I would not seek help from a mental health professional					
28. I believe treatment for a mental illness, provided by a mental health professional, would not be effective					

Please indicate to what extent you agree with the following statements:

	Definitely unwilling	Probably unwilling	Neither unwilling or willing	Probably willing	Definitely willing
29. How willing would you be to move next door to someone with a mental illness?					
30. How willing would you be to spend an evening socialising with someone with a mental illness?					
31. How willing would you be to make friends with someone with a mental illness?					

	Definitely unwilling	Probably unwilling	Neither unwilling or willing	Probably willing	Definitely willing
32. How willing would you be to have someone with a mental illness start working closely with you on a job?					
33. How willing would you be to have someone with a mental illness marry into your family?					
34. How willing would you be to vote for a politician if you knew they had suffered a mental illness?					
35. How willing would you be to employ someone if you knew they had a mental illness?					

Scoring

Total score is produced by summing all items (see reverse scored items below). Questions with a 4-point scale are rated 1- very unlikely/unhelpful, 4 – very likely/helpful and for 5-point scale 1 – strongly disagree/definitely unwilling, 5 – strongly agree/definitely willing

Reverse scored items: 10, 12, 15, 20-28

Maximum score – 160

Minimum score – 35

Reference

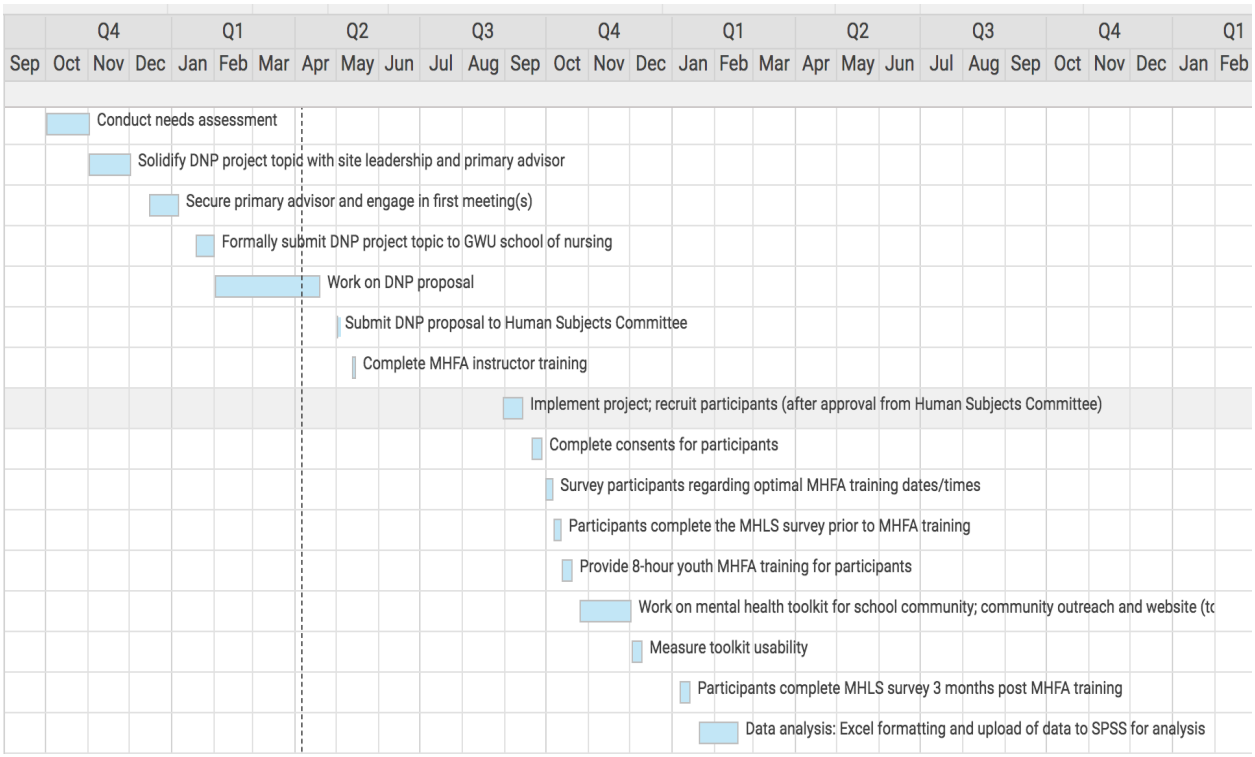
O'Connor, M., & Casey, L. (2015). The mental health literacy scale (MHLS): A new scale-based measure of mental health literacy, *Psychiatry Research*, http://dx.doi.org/10.1016/j.psychres.2015.05.064

Appendix E: Cost/Benefit Analysis Chart

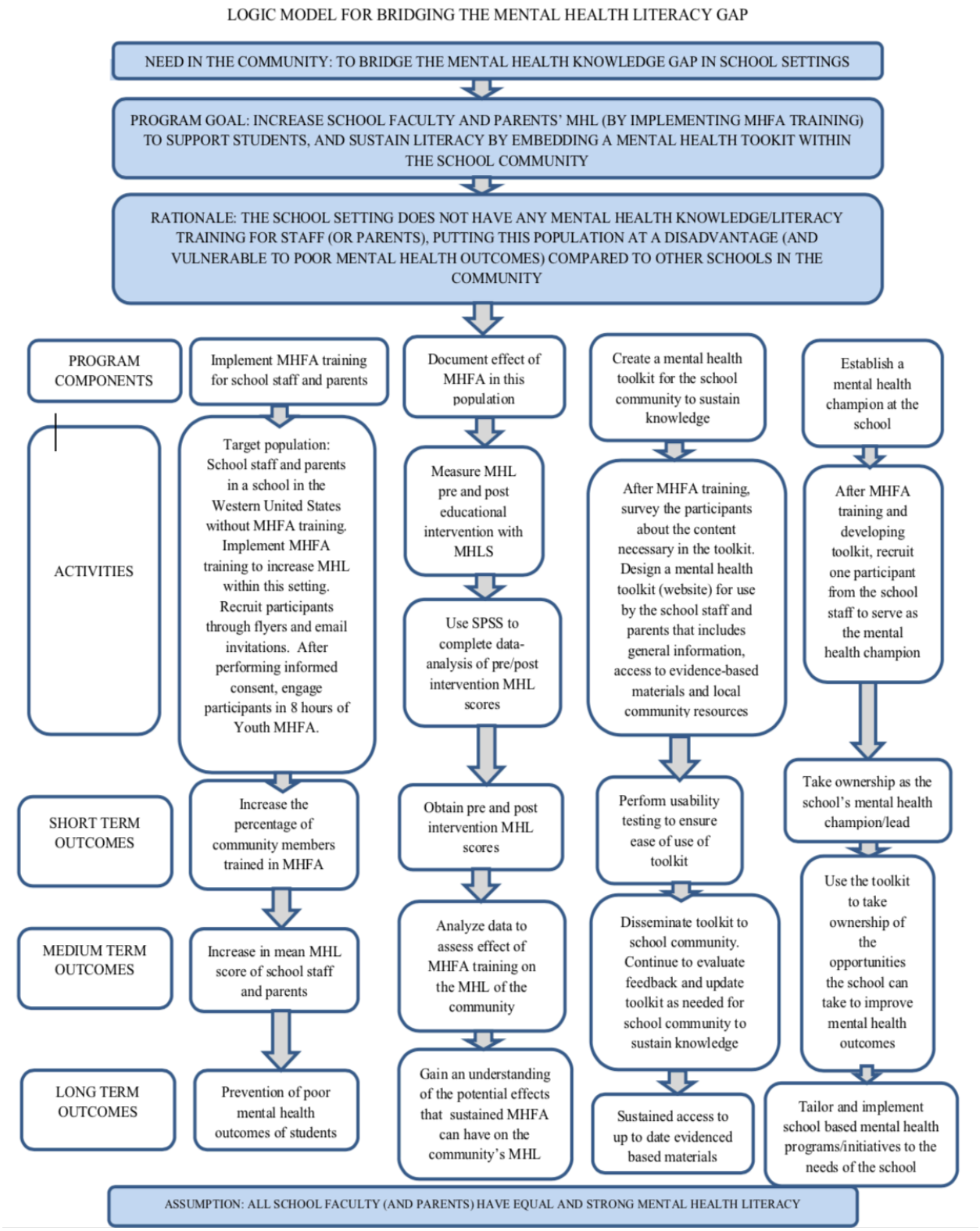
Costs			
Item	Cost/Item	Number of Items	Total Cost/Item
Recruitment flyers	$0.46	100	$46
MHLS paper surveys	$0.46	100	$46
Youth MHFA Training	$24	15	$360
Total costs			$452

Benefits			
Item	Individual cost/child	No. of children	Total benefit
Mental health services costs potentially saved	$6971.00	177	$1,233,867
Total (potential) benefit (cost saved)			$1,233,867

Appendix F: Gantt Chart



Appendix G: Logic Model



Appendix H: Data Collection/Evaluation and Analysis Methods Table

Aims/Evaluation Questions	**Measures**	**Measure Type**	**Data Source**	**Recruit. Method/ Population**	**Timing/ Frequency**	**Calculation/ Statistics**	**Goal/ Benchmark**
Increase the percentage of school staff trained in Mental Health First Aid (MHFA) by 50% within three months of project implementation. *Did the percentage of school staff trained in MHFA increase within three months of project implementation?*	Percentage of staff trained with MHFA	Process	Interview with Principal	Principal	Measured pre-project implementation (during needs assessment) and at completion of project.	Percentage	Increase staff trained in MHFA by 50%
Increase the mean mental health literacy scores of parents and staff by 50% within three months of project implementation. *Did MHFA training increase the mean mental health literacy scores of parents and staff?*	MHLS scores (scale adopted from O'Connor & Casey, 2015).	Outcome	MHLS scale scores	All participant MHLS surveys	MHLS will be administered once prior to MHFA training and then once 3 months post training.	Mean	Increase MHL mean score by 50%

Establish a mental health champion at the school within three months of project implementation. *Did the MHFA training and mental health toolkit permit the establishment of a mental health champion at the school within 3 months of project implementation?*	Establish-ment of a mental health champion post MHFA training	Balancing	Interview leadership (PTA leader and Principal)	PTA leader and Principal	Administered once, three months post MHFA training.	None	Direct interview with leadership acknowledges establishment of a mental health champion at the school.
Increase the percentage of utilized community resources/mental health aids by 20% within three months of project implementation. *Did the MHFA training and mental health toolkit increase the percentage of utilized community resources/mental health aids within*	Percentage of school utilized community resources, connections/ mental health aids and wellness programs	Structure	Interview with Principal and community outreach	1) School leadership to understand what is utilized. 2) Outreach to the community to understand what is available.	Administered once prior to project implementation and once more three months later.	Percentage	Increase percentage of community resource utilization by 20% within 3 months.

three months of project implementation?							
Identify the most prominent desires and needs from the school community to embed within the mental health toolkit within two weeks of MHFA training. *Were the toolkit needs identified within two weeks of MHFA training?*	Identify most prominent desires and needs from the community to embed within the mental health toolkit	Structure	Survey from all MHFA participants	All participants of MHFA training	Within 2 weeks of MHFA being administered.	Median	Develop mental health toolkit to include the most frequently occurring needs.
Develop (and ensure ease of use through usability testing), a school-centered mental health toolkit within three months of project implementation. *Was a usable school-centered mental health toolkit developed within three months of project implementation?*	Develop-ment of a usable mental health toolkit	Outcome	Usability testing task completion rate and participant satisfaction with ease of use.	5 project participants recruited through convenienc e sampling.	Administered in real-time after toolkit has been developed (no later than 3 months post-MHFA training); adjustments will be made to the website as needed and usability testing will continue until all 5 participants are able to achieve a 100% task completion rate	Percentage	100% task completion rate and satisfaction with ease of use.

					and report ease of use of the site.		

Appendix I: Data Dictionary

Data Element	Data Label	Definition	Data Type	Data Values & Coding
Counselors	Couns.	Counselors that offer services to school aged children.	Cont.	N/A
Outlets that increase overall wellness and curb mental health problems	MH/wellness aids	School (or school aged) wellness programs (internal or external) and/or counselors	Cont.	1) Internal school wellness programs. 2) External wellness programs. 3) School aged counselors
Counselors to access	Couns.	Counselors that offer services to school aged children.	Categorical	1) Yes 2) No
MHFA Action Plan strategy	Action	Tool utilized in MHFA training that enables effective communication	Categorical	1) Yes 2) No
Mental health prevention/outlet strategies and resources	MHpreventstrat	Evidenced based lifestyle resources proven to both prevent and mitigate mental health concerns (ex: recreational programs, meditation, clubs, etc.)	Categorical	1) Yes 2) No
Evidenced based articles	Ebart	Evidence based mental health articles that aim to enhance mental health literacy	Categorical	1) Yes 2) No
School staff	Staff	Staff that supervise children	Categorical	1) Yes 2) No

Social phobia	Soc_phobia	If someone became extremely nervous or anxious in one or more situations with other people (e.g., a party) or performance situations (e.g., presenting at a meeting) in which they were afraid of being evaluated by others and that they would act in a way that was humiliating or feel embarrassed, then to what extent do you think it is likely they have Social Phobia	Categorical	1, very unlikely; 2, unlikely; 3, likely; 4, very likely
GAD	GAD	If someone experienced excessive worry about a number of events or activities where this level of concern was not warranted, had difficulty controlling this worry and had physical	Categorical	1, very unlikely; 2, unlikely; 3, likely; 4, very likely

		symptoms such as having tense muscles and feeling fatigued then to what extent do you think it is likely they have Generalized Anxiety Disorder		
Major Depressive Disorder	Dep	If someone experienced a low mood for two or more weeks, had a loss of pleasure or interest in their normal activities and experienced changes in their appetite and sleep then to what extent do you think it is likely they have Major Depressive Disorder	Categorical	1, very unlikely; 2, unlikely; 3, likely; 4, very likely
Personality disorders	Per_dis	To what extent do you think it is likely that Personality Disorders are a category of mental illness	Categorical	1, very unlikely; 2, unlikely; 3, likely; 4, very likely
Dysthymia	Dys	To what extent do you think it is likely that Persistent Depressive Disorder (Dysthymia) is a disorder	Categorical	1, very unlikely; 2, unlikely; 3, likely; 4, very likely

Agoraphobia	Agor	To what extent do you think it is likely that the diagnosis of Agoraphobia includes anxiety about situations where escape may be difficult or embarrassing	Categorical	1, very unlikely; 2, unlikely; 3, likely; 4, very likely
Bipolar Disorder	Bip_dis	To what extent do you think it is likely that the diagnosis of Bipolar Disorder includes experiencing periods of elevated (i.e., high) and periods of depressed (i.e., low) mood	Categorical	1, very unlikely; 2, unlikely; 3, likely; 4, very likely
Drug dependence	Drug_dep	To what extent do you think it is likely that the diagnosis of Substance Abuse Disorder includes physical and psychological tolerance of the drug (i.e., require more of the drug to get the same effect)	Categorical	1, very unlikely; 2, unlikely; 3, likely; 4, very likely
Gender, mental illness	Gen_mi	To what extent do you think it is likely that in	Categorical	1, very unlikely; 2, unlikely; 3,

		general in your county, women are MORE likely to experience a mental illness of any kind compared to men		likely; 4, very likely
Gender, anxiety	Gen_anx	To what extent do you think it is likely that in general in your county, men are MORE likely to experience an anxiety disorder compared to women	Categorical	4, very ulikely; 3, unlikely; 2, likely; 1, very likely
Sleep	sleep	To what extent do you think it would be helpful for someone to improve their quality of sleep if they were having difficulties managing their emotions (e.g., becoming very anxious or depressed)	Categorical	1, very unhelpful; 2, unhelpful; 3, helpful; 4, very helpful
Anxiety	anxiety	To what extent do you think it would be helpful for someone to avoid all activities or situations that made them feel anxious if they	Categorical	4, very unhelpful; 3, unhelpful; 2, helpful; 1, very helpful

		were having difficulties managing their emotions		
Cognitive behavioral therapy	CBT	To what extent do you think it is likely that Cognitive Behavior Therapy (CBT) is a therapy based on challenging negative thoughts and increasing helpful behaviors	Categorical	1, very unhelpful; 2, unhelpful; 3, helpful; 4, very helpful
Confidentiality	Confident.1	Mental health professionals are bound by confidentiality; however there are certain conditions under which this does not apply. To what extent do you think it is likely that the following is a condition that would allow a mental health professional to break confidentiality: If you are at immediate risk of harm to yourself or others	Categorical	1, very unhelpful; 2, unhelpful; 3, helpful; 4, very helpful

Confidentiality	Confident.2	Mental health professionals are bound by confidentiality; however there are certain conditions under which this does not apply. To what extent do you think it is likely that the following is a condition that would allow a mental health professional to break confidentiality: If your problem is not life-threatening and they want to assist others to better support you	Categorical	4, very unlikely; 3, unlikely; 2, likely; 1, very likely
Confidence to find info	Seek_info	I am confident that I know where to seek information about mental illness	Categorical	1, strongly disagree; 2, disagree; 3, neither agree or disagree; 4, agree; 5 strongly agree
Confidence with technology	Conf_tech	I am confident using the computer or telephone to seek information about mental illness	Categorical	1, strongly disagree; 2, disagree; 3, neither agree or disagree; 4, agree; 5 strongly agree
Confidence with mental illness	Conf_MI	I am confident attending face to face	Categorical	1, strongly disagree; 2, disagree; 3,

		appointments to seek information about mental illness (e.g., seeing the GP)		neither agree or disagree; 4, agree; 5 strongly agree
Confidence with access to info.	Conf_access	I am confident I have access to resources (e.g., GP, internet, friends) that I can use to seek information about mental illness	Categorical	1, strongly disagree; 2, disagree; 3, neither agree or disagree; 4, agree; 5 strongly agree
Snap out	Snap_out	People with a mental illness could snap out if it if they wanted	Categorical	5, strongly disagree; 4, disagree; 3, neither agree or disagree; 2, agree; 1 strongly agree
MH as weakness	MH_weak	A mental illness is a sign of personal weakness	Categorical	5, strongly disagree; 4, disagree; 3, neither agree or disagree; 2, agree; 1 strongly agree
MH as not real	MH_real	A mental illness is not a real medical illness	Categorical	5, strongly disagree; 4, disagree; 3, neither agree or disagree; 2, agree; 1 strongly agree
MH and danger	MH_dang	People with a mental illness are dangerous	Categorical	5, strongly disagree; 4, disagree; 3, neither agree or disagree; 2, agree; 1 strongly agree
MH_avoidance	MH_avoid	It is best to avoid people	Categorical	5, strongly disagree; 4,

		with a mental illness so that you don't develop this problem		disagree; 3, neither agree or disagree; 2, agree; 1 strongly agree
MH_tell	MH_tell	If I had a mental illness I would not tell anyone	Categorical	5, strongly disagree; 4, disagree; 3, neither agree or disagree; 2, agree; 1 strongly agree
MH strength	MH_strength	Seeing a mental health professional means you are not strong enough to manage your own difficulties	Categorical	5, strongly disagree; 4, disagree; 3, neither agree or disagree; 2, agree; 1 strongly agree
MH help	MH_seekhelp	If I had a mental illness, I would not seek help from a mental health professional	Categorical	5, strongly disagree; 4, disagree; 3, neither agree or disagree; 2, agree; 1 strongly agree
MH treatment	MH_treat	I believe treatment for a mental illness, provided by a mental health professional, would not be effective	Categorical	1, definitely unwilling; 2, probably unwilling; 3, neither unwilling or willing; 4, probably willing; 5, definitely willing
Willing neighbor	Neighbor	How willing would you be to move next door to someone with	Categorical	1, definitely unwilling; 2, probably unwilling; 3, neither

		a mental illness?		unwilling or willing; 4, probably willing; 5, definitely willing
Socializing	Social	How willing would you be to spend an evening socializing with someone with a mental illness?	Categorical	1, definitely unwilling; 2, probably unwilling; 3, neither unwilling or willing; 4, probably willing; 5, definitely willing
Friends	Friends	How willing would you be to make friends with someone with a mental illness?	Categorical	1, definitely unwilling; 2, probably unwilling; 3, neither unwilling or willing; 4, probably willing; 5, definitely willing
Job	Job	How willing would you be to have someone with a mental illness start working closely with you on a job?	Categorical	1, definitely unwilling; 2, probably unwilling; 3, neither unwilling or willing; 4, probably willing; 5, definitely willing
Marry	Marry	How willing would you be to have someone with a mental illness marry into your family?	Categorical	1, definitely unwilling; 2, probably unwilling; 3, neither unwilling or willing; 4,

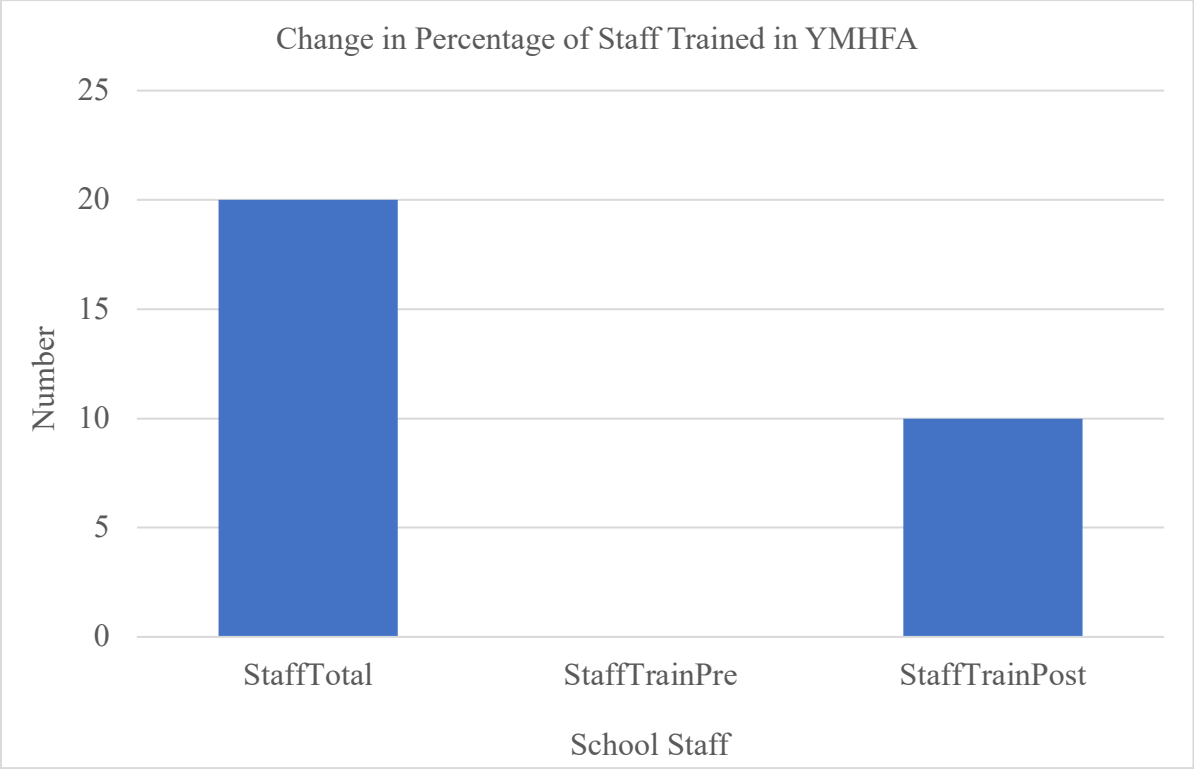
				probably willing; 5, definitely willing
Vote	Vote	How willing would you be to vote for a politician if you knew they had suffered a mental illness?	Categorical	1, definitely unwilling; 2, probably unwilling; 3, neither unwilling or willing; 4, probably willing; 5, definitely willing
Employ	Employ	How willing would you be to employ someone if you knew they had a mental illness?	Categorical	1, definitely unwilling; 2, probably unwilling; 3, neither unwilling or willing; 4, probably willing; 5, definitely willing
Role	School_role	What is your role within the school?	Categorical	1) PTA leader 2) Principal
Establishment	Mhchamp_estab	A mental health champion team has been established at the school.	Categorical	1) Yes 2) No
Usability task completion	Task_comp	Ability to complete tasks during usability testing	Categorical	1) Yes 2) No
Overall satisfaction	toolkit_sat1 toolkit_sat2	Overall, I was satisfied with the ease of use of the toolkit. Repeat measurement	Categorical	1) Yes 2) No

		(toolkit_sat2) allowed following requested toolkit revisions.		

Appendix J: Participant Demographics (n = 15)

Characteristics	*n*	Percent
Age, *n* (%)		
18-24	1	6.7%
25-34	2	13.3%
35-44	10	66.7%
45-54	1	6.7%
55-64	1	6.7%
Gender, *n* (%)		
Male	3	20%
Female	12	80%
Race, *n* (%)		
Caucasian	15	100%
Highest level of education, *n* (%)		
Baccalaureate degree	8	53.3%
Graduate degree	7	46.7%
Insurance status, *n* (%)		
Medically insured	15	100%

Appendix K: Change in Percentage of Staff Trained in YMHFA



Note. "StaffTotal" refers to the total number of staff members at the school.

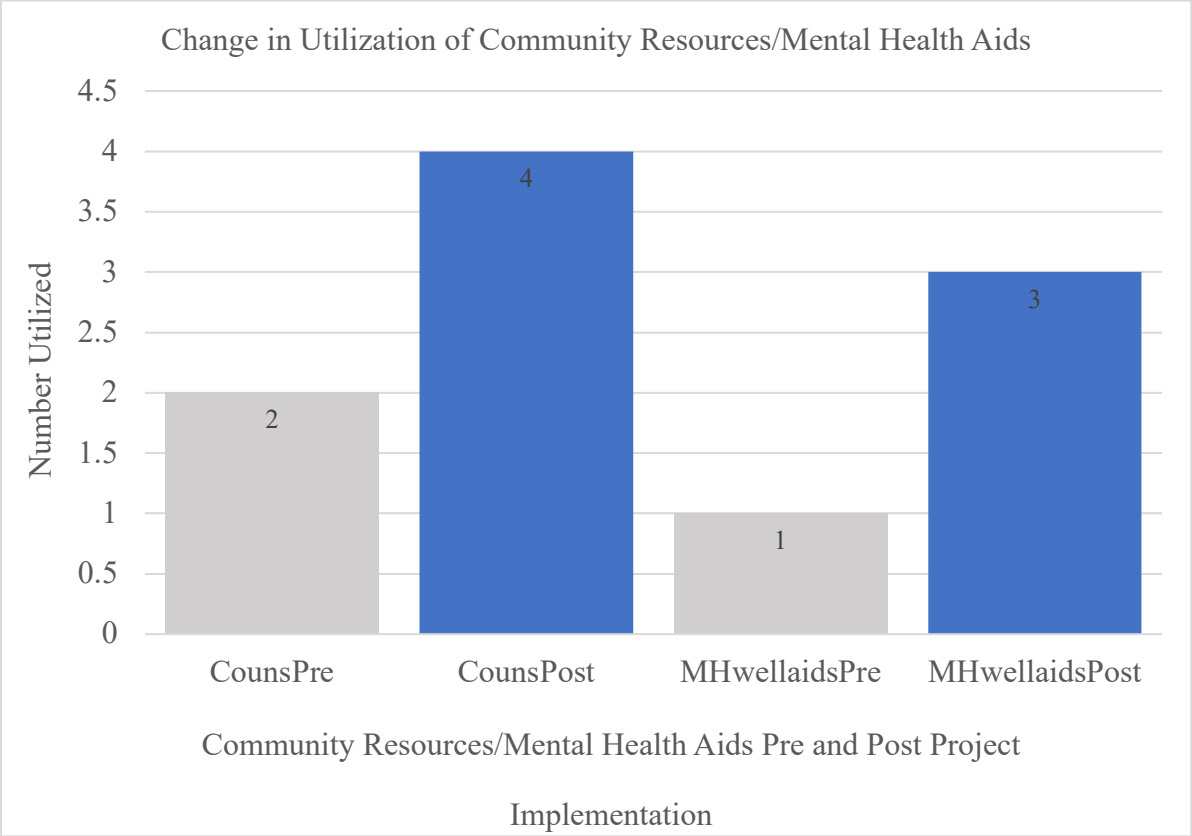
Appendix L: Pre/Post-MHLS Data

Pre-test		Post-test	
n		***n***	
Valid	15	Valid	15
Missing	0	Missing	0
Mean	104.4000	**Mean**	150.0667
Std. Deviation	24.07963	**Std. Deviation**	10.68689
Skewness	-.309	**Skewness**	-.530
Std. Error of Skewness	.580	**Std. Error of Skewness**	.580
Kurtosis	-1.940	**Kurtosis**	-1.123
Std. Error of Kurtosis	1.121	**Std. Error of Kurtosis**	1.121
Minimum	74.00	**Minimum**	130
Maximum	134.00	**Maximum**	160

Appendix M: MHLS Data Paired T-test Results

	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of Difference Lower	Upper	t	df	Sig (2-tailed)
Pair 1 MHLSPre-MHLSPost	-45.667	24.72323	6.38351	-59.35794	-31.97540	-7.154	14	< 0.001

Appendix N: Change in School Utilization of Community Resources/Mental Health Aids



Note. "Pre" denotes pre-intervention and "post" denotes after the intervention

Appendix O: Toolkit Needs

	Potential Toolkit Elements					
	Couns	Action	Mhprevstrat	Ebart	Data	Mhaware
Number of Participants Identifying as an Essential Need	15	12	2	15	14	15

Note. 15 participants were surveyed.

Appendix P: Usability Testing Results

Task Completion		**Toolkit Satisfaction Round 1**		**Toolkit Satisfaction Round 2**	
n	5	***n***	5	***n***	5
Task Completion Rate	100%	**Percentage**		**Percentage**	
		Satisfied	80%	Satisfied	100%
		Not Satisfied	20%	Not Satisfied	0%

Appendix Q: DNP Team Signature Sheet

Appendix 8: DNP Project Proposal Signature Form

All DNP Projects require formal approval by the DNP Project Team. After the written paper is approved the DNP Project Team will complete this form. Students and DNP Team Members should also keep a copy for their records.

Full Title of DNP Project: Mental Health First Aid (MHFA): Implementing an Evidence-Based Practice Change Initiative in a School Setting

Name of Team Members

Student: Kathleen (Kate) Wachutka

DNP Project Primary Advisor: Dr. Mercedes Echevarria

DNP Secondary Advisor : Dr. Jennifer Walsh

DNP Team Member: N/A

Guidelines for DNP Project Proposal

Cover Page, Table of Contents, Abstract (< 250 words), and general formatting meet APA requirements and GWSON instructions.
Introduction: Basic overview of project and describes the contribution it will make to **change practice** and **impact outcomes.**
Background & Significance: The problem or gap between current practice and current best evidence is clearly identified. **Description of the problem/gap** includes the population affected, what is currently happening, why the reader should care, what we currently know, and what we need to find out. The significance is explained in detail to include the impact/status of the problem/practice gap on population, cost, policy, leadership, healthcare systems, and beyond.
Needs Assessment: The need, feasibility, and resources available are discussed. Congruence of the project to the organization's mission and strategic plan is evident. The student describes logically the contextual/organizational environment. Discusses previous attempts or possible solutions to the problem based on evidence and experience. Was a specific process used? Ex: SWOT, Community Assessment, etc.
Problem/Purpose Statement: Problem/Purpose is clearly stated and summarized. Scope of project is realistic and appropriate to DNP Scholarship.
Practice Question: The student frames an answerable practice question related to the problem/practice gap.
Aims & Objectives: All aims are supported by objectives that are specific, measurable, achievable, realistic, and time-bound.
Review of Literature: Directly relates to answering the posed Practice Question. Databases used, key terms, and search strategy are described. Evidence is appraised and synthesized into a narrative and an Evidence Table using the instructions by Dearholt & Dang (2018). The student integrates and synthesizes the evidence and articulates a written summary of the findings and does not simply regurgitate information.
EBP Translation Model: The EBP Translation Model for the project is described and applicable to operationalizing the project.

DNP Project Requirements

Methodology: The overall design of the project correlates to the Aims & Objectives. The student clearly communicates the: Setting, Participants/Population, and Recruitment Strategy, the Consent Procedure, Risk/Harms to Participants, and Cost/Compensation. The project implementation is described in detail. Progress Indicators/Outcomes to be measured are relevant to the project. Tools/Instruments are appropriate. A project timeline and budget/resource list is presented.
Evaluation Plan: An evaluation plan for the DNP Project Process is included. Evaluation measures, tools, instruments, and measures match the Aims/Objectives and Project Type.
IRB: IRB approval at the practice site occurs first. If no IRB is available at the practice site, then a Determination of Human Subjects Research can be submitted to SONResearch@gwu.edu. If indicated, all GW SON IRB requirements are met. If the project is suitable for IRB submission, all IRB forms have been completed and approved by the DNP Primary Project Advisor. All organizational IRB requirements are met.
Letter of Cooperation is included.
Writing of DNP Project: Scholarly writing exhibited, appropriate grammar, spelling, organization, and flow.
Turn-It-In Originality Report is included.

Comments: Proposal reviewed and approved by Dr. Echevarria and Dr. Walsh. All requested changes made.

Describe Corrective Actions if Revisions Required (Use additional paper if necessary): None

Select the Outcome of the proposal:

☒Approved as presented ☐Approved with minor revisions ☐ Reject proposal

Student Signature K Wachtka

DNP Project Primary Advisor Signature Mercedes Echevarria

DNP Project Secondary Advisor Signature

DNP Project Team Member Signature: N/A

Date: June 3, 2021